

W. P. I.
Aftermath



1909

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No.



LEVI L. CONANT.

Aftermath
of the Class of 1909
of the
Worcester Polytechnic
Institute



Worcester, Massachusetts

June, 1909



Foreword

I give you within these covers of mine “tragedy, comedy, history, pastoral, pastoral-comical, historical-pastoral, tragical-historical, tragical-comical-historical-pastoral;” but mostly I have engaged to spin a web of reminiscence about the good Class of 1909.

That the future is in a large measure bound up in the past I appreciate. So I would bind that past to that future by these memorials, in order that the genesis and denouement may be linked together into a comprehensible life epic—into eighty-odd life epics.

I have essayed to record in these pages the history achieved by the Class of 1909, and so take the whip hand over fickle memory, who might else mutilate the impressions now so vivid and so dear.

I cannot subpœna you to give heed to my vaporizations,—and it may be that I am doomed for long to be a musty, unopened tome. Yet I shall count it well if—as the sands run—classmates shall open my covers and find and know again classmates and professors; may see again in fancy the sleepy lecture hall, the disorderly recitation room; amid the haps and mishaps yet to come may smile at the haps and mishaps that have been.

THE AFTERMATH.

TO PROFESSOR CONANT
OUR FRIEND THROUGH FOUR PLEASANT YEARS
THIS AFTERMATH IS DEDICATED
WITH HIGH RESPECT
AND TRUE REGARD BY THE
CLASS OF 1909.

Levi L. Conant, Ph. D.

Professor of Mathematics

For us there is a life of action, hearty and toilsome, yet there will come times for quiet thinking. And it will be good, when the lights and shadows shall flit and chase over the dying embers of a wood fire, to be able to call back and place in the retina of the mind's eye a figure whose prototype we knew back in our Tech days as Professor Conant, or better, as "Conie." What shame is there in confessing to it? We meant no disrespect; it was but the Adam in us clamoring to give a name to every new thing.

There is no personality better fitted to be indelibly manifolded, one copy to each of us, to take with us as we go forth to meet and to mix with whatever vicissitudes may fall across our several paths. Him, if we have known well, we have learned to know as typifying serenity, refinement, gentleness and restful strength. Yet in that calm and quiet demeanor there was warmth. Who of us has not known the smile that gleamed in his eyes, who has not heard him cheer our athletes, who has not caught the stray bits of humor in his conversation? There were warmth and humaneness in that serenity.

Professor Conant owns up to Littleton, Mass., as his birthplace, where he first cooed—we are sure he never broke his neighbor's rest—on the 3d of March, 1857. He came in due time by way of Phillips-Andover to Dartmouth College, where he received his Bachelor's degree in 1879. Later he was given the degree of Master of Arts by his Alma Mater, and was further honored by Syracuse University in 1893 with the degree of Doctor of Philosophy. From 1887 to 1890 Dr. Conant was installed as Professor of Mathematics at the Dakota School of Mines. Following this he pursued post-graduate studies at Clark University, and came to the Institute in 1891. He has made Tech the scene of his labors ever since, so we are but one of the eighteen classes he has seen go out and on, and he will not remember us, who are many, as the many of us will remember him. Neither, if his ready recognition be any token, will he ever wholly forget.

Let us not flatter ourselves that on us alone was his energy for a year or two bestowed. He has ever been ready to respond to civic duty, and

after serving for many years on the School Committee of Worcester, is now its Chairman, and is also actively interested in the movement for independent industrial schools in this city.

He has published several books on mathematics, and has contributed many articles to educational and scientific journals. He is even at this present time reading the galley proof of his latest work, which is entitled, "Plane and Spherical Trigonometry," and which he assures us is designed for future Tech freshies.

Dr. Conant is a member of the American Association for the Advancement of Science, and of the American Mathematical Society—yes, and there's lots more to be said about "Conie," but what though he be this, that, and the other, and much in the world's work—"for a' that, and a' that"—he is not too great to be, in youthful sympathy and interest, "on the level" with an insignificant freshie or a supercilious senior.



THE Real After Math



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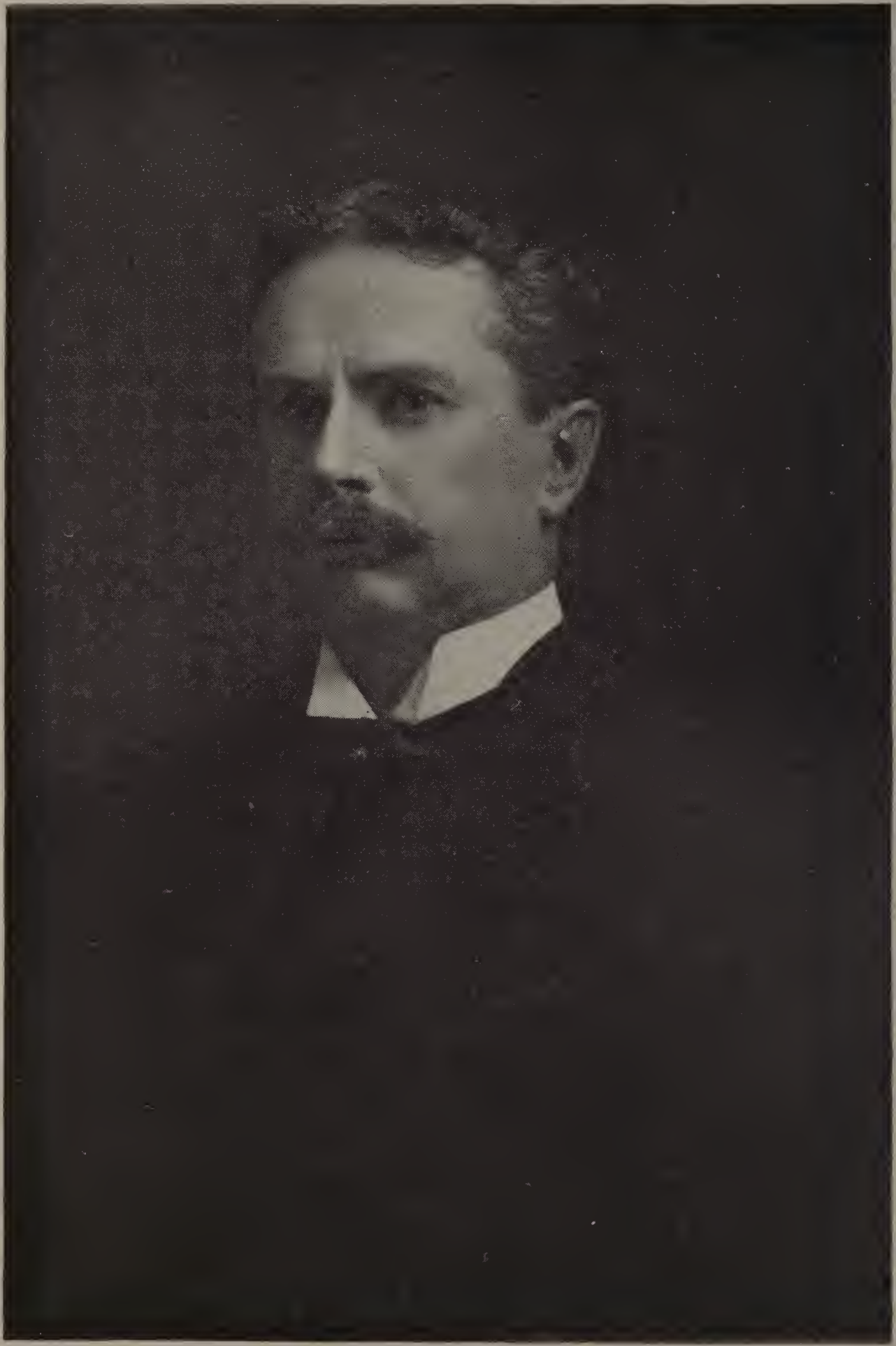
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EDMUND ARTHUR ENGLER, PH.D., LL.D.

Edmund Arthur Engler, Ph.D., LL.D.

President

Edmund Arthur Engler, President of the Worcester Polytechnic Institute, was born in St. Louis, Mo., December 23, 1856. He graduated from Washington University in 1876, with the degree of Bachelor of Arts. In 1877 he was given the degree of Bachelor of Philosophy, in 1879 that of Master of Arts, and in 1892 the degree of Doctor of Philosophy. In 1901 he received from his Alma Mater the degree of Doctor of Laws.

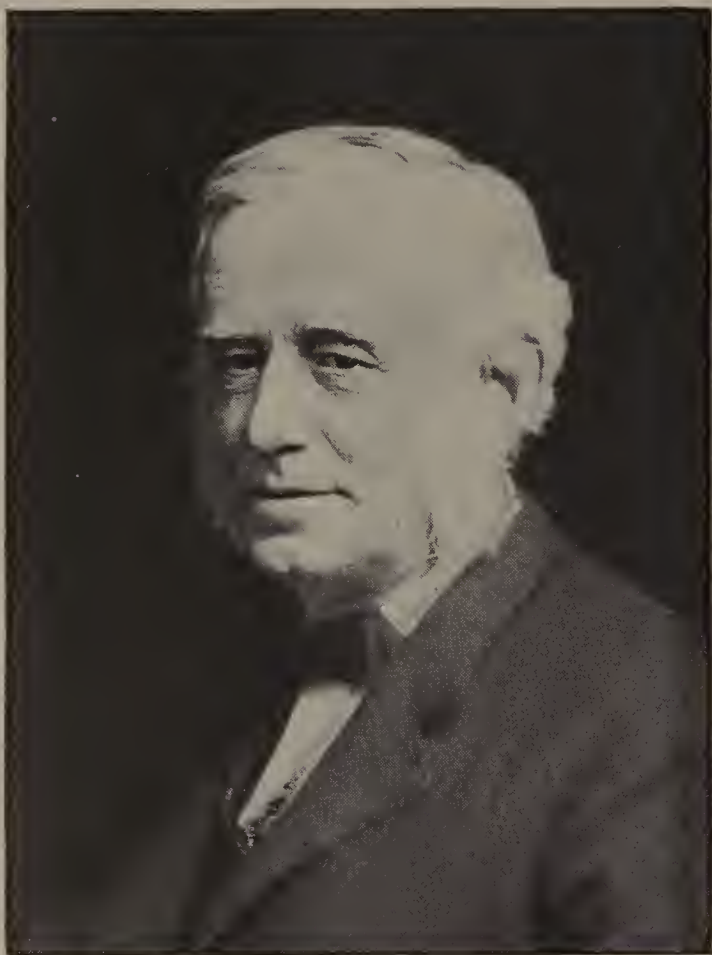
From 1881 to 1901 Doctor Engler was Professor of Mathematics at Washington University. In 1896 he was in addition made Dean of the School of Engineering connected with that institution. During these years he found time to pursue his studies in Europe, thus rounding out an already excellent preparation for a scholarly career.

The ramifications of Doctor Engler's work in the field of science have been many and various. From 1898 to 1901 he was President of the Academy of Science of St. Louis; previous to this time he had been a member of the Washington University eclipse expedition to Norman, Cal., and had served for a time as Secretary of the Round Table of St. Louis. He was Chairman of the Jury in the Department of Manufactures at the Pan-American Exposition at Buffalo, and in 1904 was Chairman of the International Jury on Instruments of Precision at the Louisiana Purchase Exposition. Doctor Engler is a member of the National Geographical Society, of the Council of the American Antiquarian Society, of the American Mathematical Society, and a Fellow of the American Association for the Advancement of Science. He has contributed largely to scientific journals and periodicals.

Following the resignation of President Mendenhall in 1901, Doctor Engler was elected President of the Worcester Polytechnic Institute. His incumbency has been marked by high executive service, which has left material evidence of its results in new buildings, better equipment, a larger Faculty, and a greatly increased student body. He has made a good pilot to hold the wheel, and he can add an appreciative Class of 1909 to the crew of alumni who are working with him for the highest good and greatest development of the Institute.

John E. Sinclair, Ph.D., *Professor of Higher Mathematics.*

Doctor Sinclair is a graduate of Dartmouth College, being a member of the Class of 1858. He spent a year in teaching in Adrian, Mich., and



in 1859 he went to Washington University as a tutor. In 1863 he returned to his Alma Mater and became Professor of Mathematics in the Chandler Department of the college, which position he held until coming to Tech in 1868. He has been associated, thus, with the Institute throughout her entire history. He received the degree of A.M. from Washington University in 1863 and in 1879 from Dartmouth College. In 1883 he was given by Dartmouth the degree of Ph.D. While no longer actively connected with the Institute, he will not soon be forgotten at Tech, surely not by the Class of 1909, whose faltering steps he guided through the mazes of higher mathematics.

Leonard P. Kinnicutt, S.D., *Professor of Chemistry.*

Doctor Kinnicutt graduated from the Massachusetts Institute of Technology with the Class of 1875. He then studied two years and a half abroad, spending one year at Heidelberg and a year and a half at the University of Bonn. On his return to America Dr. Kinnicutt studied a short time at Johns Hopkins University and became Instructor in Qualitative Analysis at Harvard. In 1882 Dr. Kinnicutt received the degree of S.D. from Harvard, and one year later came to W. P. I. as Assistant Professor of Chemistry. In 1885 he received the full professorship. Doctor Kinnicutt is a recognized authority on sanitation and has made a careful and exhaustive study of this subject, both in this country and abroad.



George H. Haynes, Ph.D., *Professor of History and Economics.*

Doctor Haynes formed an early acquaintance with the Institute, joining its teaching staff directly upon graduating from Amherst College in 1887. In 1890 he left Tech to pursue a course of study at Johns Hopkins University, from which institution he received the degree of Ph.D. in 1893. He returned to the Institute as Professor of History and Economics. The scope of Dr. Haynes' work embraces a larger field than his course of instruction at the Worcester Polytechnic Institute, helpful and interesting as he makes those to the undergraduate. He is a member of the American Historical Association, the American Political Science Association, and the American Antiquarian Society. His publications include two books, as well as many contributions to journals devoted to history and government.



Walter L. Jennings, Ph.D., *Professor of Organic Chemistry.*



Doctor Jennings received his A.B. degree from the University of Harvard in 1889. After three years of advanced work at the same university, he received the degree of Ph.D. The following two years were spent in study at Berlin and Heidelberg.

On his return from Europe he came to the Worcester Polytechnic Institute as Assistant Professor of Physics.

Zelotes Wood Coombs, A.M., *Professor of Modern Languages.*



Institute, and the cause of good, clean athletics gains from him hearty encouragement, and finds in him a staunch supporter.

Professor Coombs was graduated from Amherst College in 1888. During the following year he was an instructor in the Brooklyn Polytechnic Institute. Later he attended the University of Virginia both as student and instructor. He came to the Worcester Polytechnic Institute in 1890 as instructor in modern languages, serving also as clerk to the President. In 1894 he went abroad and studied at the University of Berlin, and upon his return to the Institute was made Assistant Professor of Modern Languages. In 1901 he was made Professor of French, and the following summer he spent in study in Paris. Since 1903 he has been the head of the Language Department. Professor Coombs is the Faculty Director of Athletics at the

Harold B. Smith, M.E., *Professor of Electrical Engineering.*

Professor Smith was born in Barre, Mass., in 1869. He was graduated from the Barre High School in 1886, and entered Cornell soon afterward. He was a prominent member of the Beta Theta Pi fraternity, and was elected to the honorary society of Sigma Xi. After taking a post-graduate course, he became Adjunct Professor of Electrical Engineering in charge of the department at Arkansas State University. He stayed at this school only one year, having accepted positions as head designer and electrical engineer for the Elektron Manufacturing Company of Springfield, Mass., and the professorship of electrical engineering and the direction of the School of Electrical Engineering at Purdue University. In 1896 he came to the Worcester Polytechnic Institute, and has remained here ever since. Besides hav-

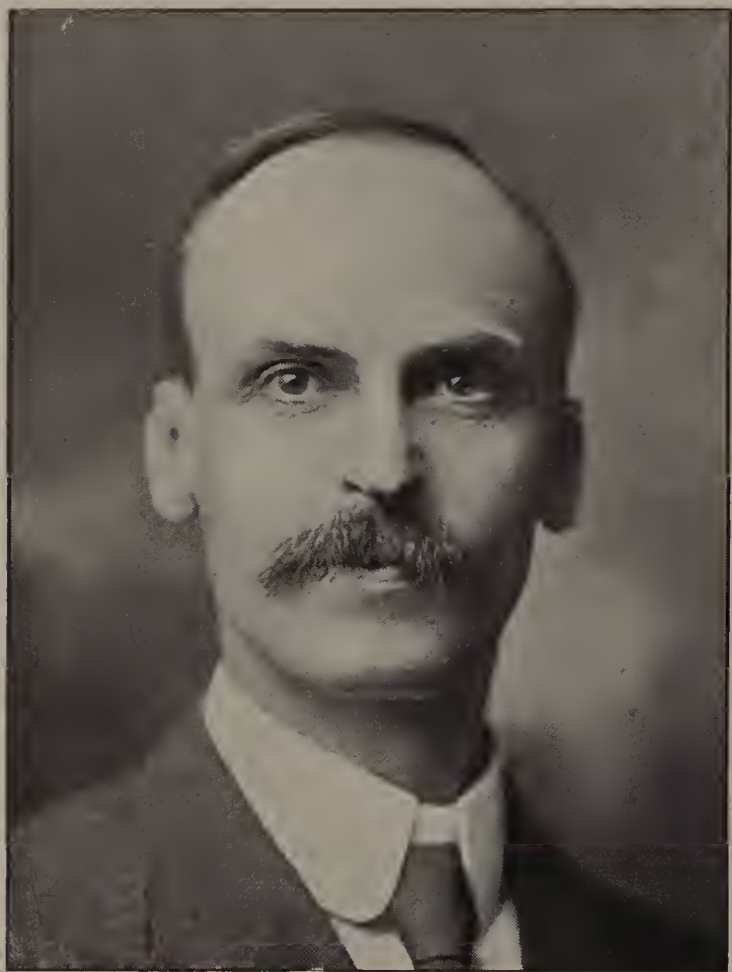


ing been electrical engineer and designer for the Westinghouse Electric & Manufacturing Company since 1905, Professor Smith revised the electrical vocabulary of the Century Dictionary in 1897; was Chairman of the Jury on Electrical Lighting, St. Louis Exposition, in 1904; an author of about fifty papers on electrical engineering subjects, including one before the International Electrical Congress in 1904.

He is a member of the American Institute of Electrical Engineers, British Institution of Electric Engineers, American Society of Mechanical Engineers, Society for the Promotion of Engineering Education, Fellow of the Society for the Advancement of Science, and other scientific societies both at home and abroad.

Arthur W. French, C.E., *Professor of Civil Engineering.*

Professor French was graduated from the Thayer School of Civil Engineering, Dartmouth College, in 1892. He held positions with the

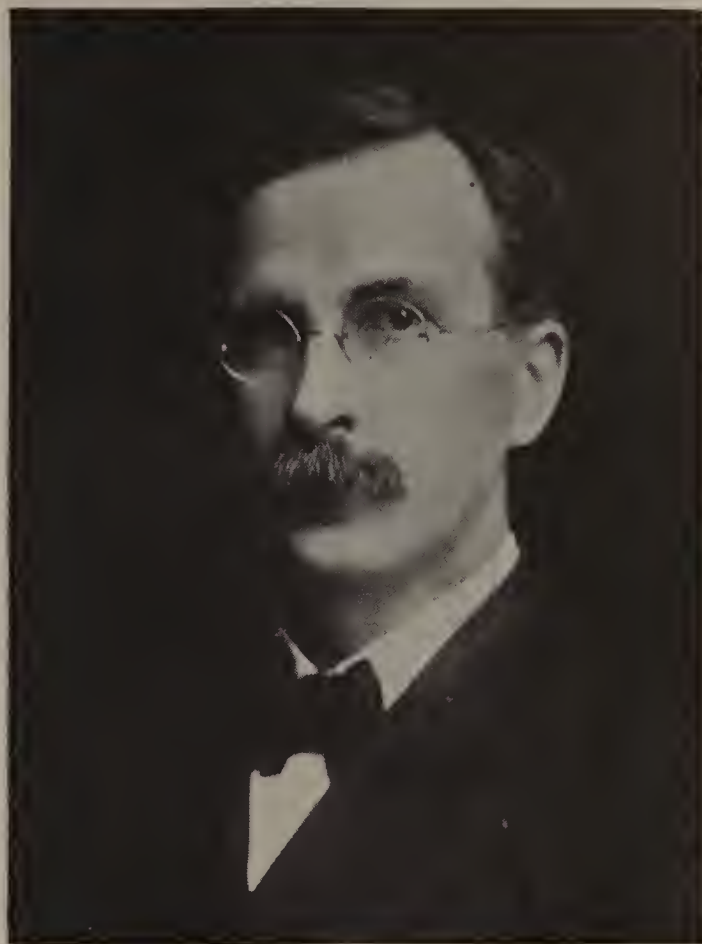


Tower Brothers, Holyoke, Mass., the Platte River Paper Company, and the Denver & Gulf Railroad, in which positions he gained valuable experience in design and construction. After serving for a time as Associate Professor of Civil Engineering at his Alma Mater, he came to the Worcester Polytechnic Institute in 1899 as Professor of Civil Engineering. Since coming to Tech his summer work has embraced several important construction undertakings. Well versed in theoretical engineering science, and possessed of the instinct for putting things straight for the student, yet at the same time a capable designing and field engineer, Professor French is held in great esteem by the men whose

work comes under his direction. He is a member of the American Society of Civil Engineers and the Society for the Promotion of Engineering Education, and is Chairman of the Commission on the Congestion of Streets (Worcester), where his work means much for the future of the city.

A. Wilmer Duff, M.A., D.Sc. (Edin.), *Professor of Physics.*

Professor Duff is a graduate of the University of New Brunswick and, after four years of study, obtained the degree of Master of Arts from the University of Edinburgh and later the degree of Doctor of Science from the same university. He then spent a year at the University of Berlin, and in the year 1889 became substitute Professor of Physics at the University of Madras. After a year in this position, he accepted a similar position in the University of New Brunswick and remained there until 1893, when he was called to occupy the chair of Professor of Physics at Purdue. In 1899 he came to Tech as the head of the Department of Physics, and has filled that position up to the present time. Dr. Duff is a Fellow of the American Academy of Arts and Science, of the Indiana Academy of Science, of the American Physical Society, etc.



William W. Bird, S.B., *Professor of Mechanical Engineering.*

Professor Bird is an alumnus of the Institute, graduating in the Class of 1887. He remained three years as instructor and student under Professor Alden, but in 1890 left the Institute to carry on his father's foundry business as trustee. From 1894 to 1896 he was Assistant Professor of Mechanical Engineering during the erection and equipment of the Mechanical Engineering Laboratory, the Power House, and the Hydraulic Testing Plant. In 1896 he became President and Treasurer of the newly incorporated Broadway Foundry Co. in Cambridge, and in 1900 became an alderman of the city of Cambridge, which positions he held until he returned to the Institute as head of the department and director of the Washburn Shops, the position he has held during our course. Professor Bird is a member of the American Society of Mechanical Engineers.



Alton L. Smith, M.S., *Professor of Drawing and Machine Design.*



Professor Smith is a graduate of the Institute in the Class of 1890, having entered after receiving considerable experience in the machine shop of J. Duckworth & Company in Springfield. Upon graduation he became instructor in the Department of Drawing. In 1899 he received the degree of Master of Science, in 1900 became Assistant Professor of Machine Design, and in 1906 received the title of Professor of Drawing and Machine Design, and became the head of the Drawing Department. In connection with the work in the department he has prepared several articles on sketching and lettering which are used as a text to supplement the work in that subject. Professor Smith is a member of the American Society of Mechanical Engineers and of the Society for the Promotion of Engineering Education.

Charles M. Allen, M.S.,

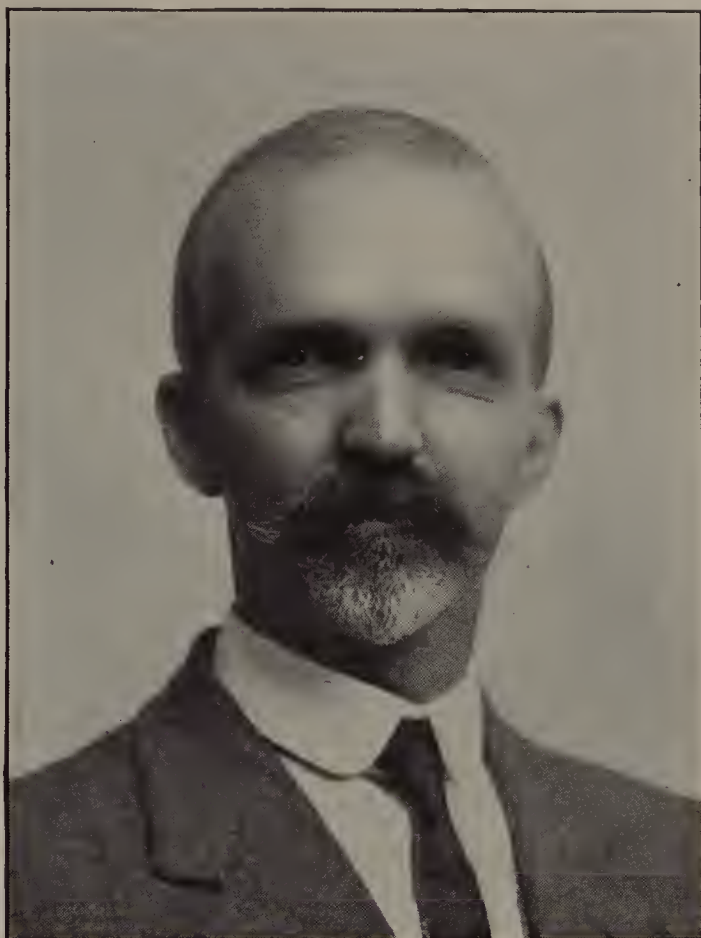
Professor of Experimental Mechanical Engineering.

Professor Allen is a graduate of the Institute in the Class of 1894, and upon graduating returned as an instructor in the Mechanical Department. The degree of Master of Science was conferred upon him in 1900. In 1902 he was appointed Assistant Professor of Experimental Mechanical Engineering, and later the title of full professor in the same line was conferred. Professor Allen has complete charge of the Mechanical Laboratories and all experimental work in the department, and also has charge of all of the hydraulic work. Outside of the Institute Professor Allen is known by his reputation as a hydraulic engineer, his specialty being the testing of water-wheels in the field. He is a member of the American Society of Mechanical Engineers, the Society for the Promotion of Engineering Education and an associate member of the American Society of Civil Engineers.



J. O. Phelon, M.M.E., *Professor of Electrical Engineering.*

Professor Phelon was born in Cherry Valley, New York. He was graduated from Worcester Polytechnic Institute in 1887, with the degree of S.B. in Mechanical Engineering, and was appointed after graduating as assistant in physics. In 1890 he received the degree of S.B. in Electrical Engineering. Having received the appointment as Fellow in Electrical Engineering, he spent the year 1900-01 at Sibley College, Cornell University, and received the degree of M.M.E. from there in June, 1901. When the Electrical Department was formed at Worcester Polytechnic Institute in 1896, Professor Phelon became instructor in electricity, receiving his appointment as Assistant Professor of Electrical Engineering in 1901, and Professor of Electrical Engineering in 1907.



Albert S. Richey, E.E.,

Professor of Electric Railway Engineering.

Professor Richey was born in Muncie, Ind., April 10th, 1874. After graduating from the Muncie High School in 1890, he took up the electrical engineering course at Purdue University, from which he was graduated in 1894, and from which he received the degree of Electrical Engineer in 1908. He is a member of the Phi Delta Theta Fraternity, and was elected to the honorary society of Tau Beta Pi before graduation. In 1896 Professor Richey entered the employ of the Citizens' Street Railway Co. at Muncie, and in 1898 he was made chief electrician of that company. In April, 1899, he went to Marion, Ind., as chief electrician of the Marion City Railway Company. This company having been absorbed by the Union Traction Company of Indiana, Professor Richey was made chief electrician of the latter in September, 1899, and in March, 1901, he was made their electrical engineer. After the completion of the construction of the Indianapolis Northern Traction Company, this company was merged with the Union Traction Company, and Professor Richey was made their electrical engineer, in 1905 being made chief engineer. In October, 1905, he resigned that position in order to accept the position of Assistant Professor of Electrical Railway Engineering in June, 1907.



cal engineering course at Purdue University, from which he was graduated in 1894, and from which he received the degree of Electrical Engineer in 1908. He is a member of the Phi Delta Theta Fraternity, and was elected to the honorary society of Tau Beta Pi before graduation. In 1896 Professor Richey entered the employ of the Citizens' Street Railway Co. at Muncie, and in 1898 he was made chief electrician of that company. In April, 1899, he went to Marion, Ind., as chief electrician of the Marion City Railway Company. This company having been absorbed by the Union Traction Company of Indiana, Professor Richey was made chief electrician of the latter in September, 1899, and in

March, 1901, he was made their electrical engineer. After the completion of the construction of the Indianapolis Northern Traction Company, this company was merged with the Union Traction Company, and Professor Richey was made their electrical engineer, in 1905 being made chief engineer. In October, 1905, he resigned that position in order to accept the position of Assistant Professor of Electrical Railway Engineering in June, 1907.

Professor Richey is a full member of the American Institute of Electrical Engineers, a member of Sigma Xi Society, New England Street Railway Club, and associate member of the American Street & Interurban Railway Association. During the past three years he has been retained as consulting engineer for several electric railway companies in Massachusetts. He is also a regular contributor to the editorial columns of the Street Railway Journal.

Carleton A. Read, S.B., *Professor of Steam Engineering.*

Professor Read graduated from the Massachusetts Institute of Technology with the Class of 1891, and immediately returned as instructor in mechanical engineering, which position he held until 1899. He was then appointed to the chair of Professor of Mechanical Engineering at New Hampshire State College at Durham, N. H. Upon the retirement of Professor Rockwood at the end of last year, Professor Read was appointed Professor of Steam Engineering at the Institute. Outside of his work at Tech, he has charge of the instruction in steam engineering at the Franklin Union in Boston. Much of Professor Read's time has been spent in laying out heating and ventilating systems and in making tests of power-plants. He is a member of the American Society of Mechanical Engineers.



Arthur W. Ewell, Ph.D., *Assistant Professor of Physics.*



Doctor Ewell is a graduate of Yale College and has also taken extensive graduate work at Johns Hopkins University. In 1901 he came to the Worcester Polytechnic Institute as instructor in physics, and has more recently been appointed Assistant Professor of Physics. Besides his training in this country, he has also spent some time abroad studying under eminent German physicists. He has perfected an electrical method for producing ozone, which has been adopted in a number of industries. Doctor Ewell is a Fellow of the American Academy of Arts and Sciences, and a member of the American Physical Society.

Howard C. Ives, C.E.,

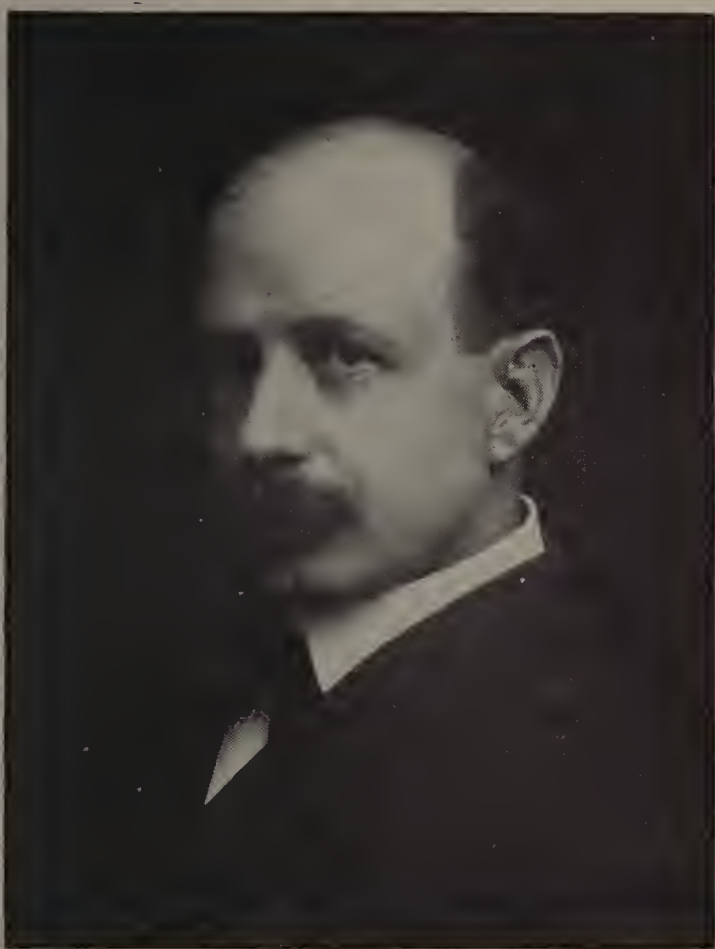
Assistant Professor of Railroad Engineering.



Professor Ives was graduated from the Sheffield Scientific School, Yale, in 1898. During the following year he took a post-graduate course in the same school and received the degree of C.E. After practicing his profession for a year he came to the Worcester Polytechnic Institute in 1900 as instructor in civil engineering. In 1903 he was appointed Assistant Professor of Civil Engineering at the University of Pennsylvania. He left there in 1906 and returned to the Institute as Assistant Professor of Railroad Engineering. Professor Ives has made several contributions to engineering literature.

George R. Olshausen, M.E., Ph.D.,

Assistant Professor of Theoretical Electrical Engineering.



Professor Olshausen was graduated from a five-year course in mechanical engineering at Washington University, where he received his M.E. degree in 1890. During the year 1890-91 he was employed as assistant engineer for the Union Depot R. R. Co., St. Louis, becoming their chief engineer in 1891. The year 1894-95 he spent as chemical manufacturer with C. O. Knoblauch, and as instructor in theoretical and practical astronomy at Washington University. He again entered the employ of the Union Depot R. R. Co., in 1895, as chief engineer. In 1896 he was employed with the William Wharton, Jr., Co., Philadelphia. Professor Olshausen spent the next five years in advanced work in mathematics and physics at the University of Berlin, from which he received the degree of Ph.D. in 1901. Since then he has

been: Assistant Professor of Mechanical Engineering, Armour Institute of Technology (1901-02); Professor of Physics, Armour Institute (1902); Engineer with Messrs. Lichter & Jens on power station work, Omaha, Neb. (1902-3), and Department of Physics, Cornell University (1903-07). Professor Olshausen received his appointment as Assistant Professor of Theoretical Electrical Engineering at W. P. I. in 1907.

Arthur D. Butterfield, M.S., A.M.,

Assistant Professor of Mathematics.

Professor Butterfield received the degree of B.S. from the Worcester Polytechnic Institute in 1893, "the only class that ever was," he will tell



you. From 1893 to 1894 he was in charge of field surveys in the U. S. Lighthouse Establishment. In 1894 he returned to the Institute as Assistant Professor of Civil Engineering, which position he held four years, receiving the degree of M.S. from his Alma Mater in 1898. He went to the University of Vermont in 1898 as instructor in mathematics, to become later Professor of Mathematics and Mechanics at the same institution. In 1908 he left the University to return to Tech as Assistant Professor of Mathematics. In the summers since 1895 Professor Butterfield has been actively engaged in survey work both for the State of Massachusetts and for the U. S. Geological

Survey. In recent summers he has been in charge of surveys of the Water Resource Branch of the U. S. G. S. Professor Butterfield has received the appointment of Honorary Fellow in Mathematics at Clark University for the year 1909-10. Though fulfilling well the duties of his new position at the Institute, he has shown as active an interest in athletics as he exhibited when he played on the Varsity in '93.





INSTRUCTORS—1908-09.

ROBERT C. SWEETSER, S.B., *Instructor in Chemistry.*

Mr. Sweetser, instructor in analytical chemistry, gas analysis and water analysis, is an alumnus of the Institute, graduating with the Class of 1883. He has been an instructor at the Institute since that time. Mr. Sweetser by his ability and good nature has won the respect and esteem of his students.

DANIEL F. O'REGAN, S.B., *Instructor in Chemistry.*

Mr. O'Regan graduated from Tech with the Class of 1891, and after spending two years in research work under the direction of Dr. G. D. Moore, he became instructor in chemistry, a position which he has held since. While in Tech he served as editor of the W. P. I., a former Tech publication, and also as editor of the 1901 Aftermath. Mr. O'Regan is President of the F. A. Morse Association, which controls the property occupied by the Phi Gamma Delta Fraternity.

He has been connected with the Worcester evening schools, and has served as principal of the Evening High School.

JOHN JERNBERG, *Instructor in Forge Practice.*

Mr. Jernberg has been instructor in forge practice ever since 1882, and has witnessed the growth of the Institute during the past twenty-seven years. He is a smith of great ability, and has made a special study of the effects of the different heat treatments of steel. In the instruction of this subject Mr. Jernberg is a past master. He also has charge of the forge-work for the Washburn Shops.

HOWARD P. FAIRFIELD, *Instructor in Machine Construction.*

Mr. Fairfield came to the Institute in 1900 as head instructor in the Washburn Shops. Previous to this time he had occupied the position of instructor in machine construction and shop practice in the Case School in Cleveland, Ohio. During Mr. Fairfield's time at the Institute, the equipment of the Shops has been increased and thorough courses have been arranged. Mr. Fairfield is a well-known writer for both the press and the leading engineering publications, and his articles, illustrated by his own excellent photographs, are widely read. He is a member of the American Society of Mechanical Engineers and the Society for the Promotion of Engineering Education.

DAVID L. GALLUP, M.E., *Instructor in Mechanical Engineering.*

Mr. Gallup is an alumnus of the Institute, graduating with the Class of 1901. He immediately became an assistant in the Mechanical Department, and for a time was instructor in mechanical drawing, while later in our course he took charge of elementary steam engineering and the gas-engine courses. He is Professor Allen's assistant in the experimental work of the Mechanical Laboratories. Mr. Gallup has made a special study of gas and gasoline engines and is quite an expert in this subject.

D. F. CALHANE, PH.D., *Instructor in Chemistry.*

Doctor Calhane was graduated from Harvard University with the Class of 1894. Nine years later he received his degree of Doctor of Philosophy. Since that time he has been the instructor in industrial and electro-chemistry at the Institute.

ELMER H. FISH, S.B., *Instructor in Mechanical Engineering.*

Mr. Fish graduated from the Institute with the Class of 1892 and immediately became associated with his father in the machine tool business. He returned as an instructor in free-hand drawing and descriptive geometry in 1903. At present he is in charge of the work in machine drawing and elementary machine design and is instructor in the junior work in mechanics. Mr. Fish's extensive practical experience and his large number of stories, coupled with his excellent repartee, make his classes exceedingly interesting. He is a writer for the leading technical periodicals.

FREDERIC BONNET, JR., PH.D., *Instructor in Chemistry.*

Dr. Bonnet is a graduate of Washington University, St. Louis. He received his Ph.D. degree at Harvard. For a year before coming to W. P. I. he was an instructor at the State University of Iowa. In 1904 he was made instructor in inorganic chemistry and organic analysis. Dr. Bonnet has done considerable work in ceramic chemistry.

CARL D. KNIGHT, E.E., *Instructor in Experimental Electrical Engineering.*

Mr. Knight graduated from Tech in the Class of 1903. For a year after graduation he was connected with the Testing Department of the General Electric Company at Schenectady, N. Y. He returned to the Institute in the fall of 1904 as an instructor in electrical engineering. In June, 1908, he received the degree of E.E.

WILBER R. TILDEN, *Instructor in Pattern-making.*

Mr. Tilden came to us in 1904, just previous to the time when this class entered the Institute. Before this he occupied the position of foreman of the pattern-shop and head draughtsman of the Holyoke Machine Co. of this city. He immediately dropped the old course in cabinet-making and substituted the present course of pattern-making, a decided improvement. Under his supervision the pattern-shop was entirely refitted with benches and appurtenances during the summer of 1907, making it a model of its kind.

AUSTIN M. WORKS, A.M., *Instructor in Language.*

Mr. Works is a graduate of Tufts College, from which he received the degrees of A.B. and A.M. in 1905. He taught English and German as student assistant at Tufts during the school year of 1904-5. Mr. Works entered the Institute as instructor with the present graduating class, in the fall of 1905. That same year he scored rather heavily over some of our predecessors, which possibly accounts for the fact that his name occurs only once (page 235) in the 1908 Aftermath. We will make amends for their lack of appreciation by saying that, despite the fact that Mr. Works practices his vocation (to avoid the obvious pun) in the Language Department, like Professor Coombs he rises sufficiently above his thankless task to be popular.

CHARLES B. HARRINGTON, M.S., *Instructor in Physics.*

Mr. Harrington graduated from the Institute with the Class of 1904, and after a course of graduate work and laboratory instruction in the Physics Department, received his M.S. degree in 1906. Since that time he has been an instructor in the Physics Department. Mr. Harrington leaves next year for Phillips-Andover Academy, where he will take charge of the Physics Department of that institution.

JAMES C. DAVIS, S.B., *Instructor in Mechanical Drawing.*

Mr. Davis graduated from Purdue University in the year 1904, and became instructor at the Institute in 1906, having courses in free-hand and mechanical drawing, and assisting Mr. Fish in the work in machine design. Mr. Davis also has courses in descriptive geometry.

JOHN R. McCONNELL, S.B., *Instructor in Mechanical Engineering.*

Mr. McConnell is also a graduate of Purdue, and came to the Institute with Mr. Davis in 1906 as instructor in the Mechanical Department. His work is entirely with the freshman class, including courses in free-hand and mechanical drawing and descriptive geometry.

FRANCIS J. ADAMS, E.E., *Instructor in Electrical Engineering.*

Mr. Adams graduated from the Institute in 1904. The next two years he spent at the Institute as a graduate assistant in the Electrical Engineering Department, receiving the degree of E.E. in 1906. For a time he was connected with the Engineering Department of the Westinghouse Company at Pittsburg, Pa. He was appointed an instructor in electrical engineering at Tech in January, 1907.

CHARLES E. ROBINSON, A.M., *Instructor in French and German.*

Mr. Robinson received his preparatory education at Phillips-Exeter Academy, and graduated from Brown University in 1905. He has lately received the degree of A.M. from his Alma Mater. He came to the Institute in 1907.

ALBERT T. CHILDS, E.E., *Instructor in Electrical Engineering.*

Mr. Childs graduated from Tech in 1906, and returned to the Institute the same year as graduate assistant in electrical engineering. He received the degree of E.E. in 1908. Mr. Childs is a member of the honorary society of Sigma Xi.

WALTER D. STEARNS, E.E., *Instructor in Electrical Engineering.*

Mr. Stearns graduated from the Institute in the Class of 1906. He was a graduate assistant in electrical engineering in 1906-08, and received the degree of E.E. in 1908. He has been instructor in experimental electrical engineering since 1908.

ROBERT H. GODDARD, S.B., *Instructor in Physics.*

Mr. Goddard graduated at the Institute in the Class of 1908, being first honor man in that class. In the fall of 1908 he accepted a position at the Worcester Polytechnic Institute as instructor in the Physics Department. Mr. Goddard has been pursuing studies in physics at Clark University during the year, and has been given the appointment of fellow in physics at that institution for the following year of 1909-10.

JAMES A. BULLARD, A.B., *Instructor in Mathematics.*

Mr. Bullard received his degree from Williams College in 1908, and came to Tech in the following fall as an instructor in mathematics.

ROYAL W. DAVENPORT, S.B., *Instructor in Civil Engineering.*

Mr. Davenport graduated from the Institute in 1908, and returned in the fall of that year to enter the Civil Engineering Department as an instructor.

WILLIAM F. HOLMAN, PH.D., *Instructor in Physics.*

Doctor Holman received his B.S. degree at the University of Nebraska in 1904. Two years later he received the degree of M.A. from the same institution. In the fall of 1906 he entered the University of Göttingen, located at Göttingen, Germany, receiving his Ph.D. there in 1908. In the fall of 1908 Dr. Holman accepted a position as instructor of physics at the Institute.

CHARLES J. ADAMS, B.A., *Instructor in Modern Languages.*

Mr. Adams graduated from Amherst College in 1896, and since that time has always been engaged in literary and journalistic work. He is at present assistant literary editor of the Newark Evening News. Mr. Adams came to the Institute as instructor in the fall of 1908.

J. HOWARD REDFIELD, S.B., *Instructor in Mathematics.*

Mr. Redfield graduated from Haverford College, Pennsylvania, in 1895, when he received his S.B. In 1902 he received the degree of S.B. from the Massachusetts Institute of Technology. From 1902 until 1908, when he came to the Institute, he was engaged in practical work in civil engineering.

JOHN F. MANGOLD, S.B., *Instructor in Civil Engineering.*

Mr. Mangold took his degree from Cornell College, Iowa, in 1907. During the summer of 1906 he was employed in Mexico on railroad location. Since graduation he has gained some experience in drainage and municipal work. He has been one year in the C. E. Department of the Institute.

SAMUEL E. BALCOM, *Instructor in Management of Engines and Boilers.*

Mr. Balcom came to the Institute last June, succeeding Mr. Ashworth. Previous to this time he had been for six years head engineer and supervisor of the power plant at the City Hospital in this city. For ten years previous to this time he had held the position of engineer in various power plants. Mr. Balcom now has charge of the instruction in power plant management at the Institute.

REGINALD H. PALMER, *Instructor in Foundry Practice.*

Mr. Palmer came to the Institute in October from the plant of the Lake Shore & Michigan Southern Railroad at Elkhart, Ind., where he held the position of superintendent of the foundry. He served his apprenticeship in the Rhode Island Locomotive Works at Providence, going there in 1872. Since that time he has held the positions of foreman and

superintendent with the Perkins Machine Co. of Warren, Mass.; R. Hoe & Co. of New York, and several other firms. During the past ten years he has been an extensive writer for foundry publications and the daily press. Since his coming to the Institute Mr. Palmer has increased the scope of the foundry work and has supplemented it with lectures illustrated by photographs and blue-prints. He is a member of the American Foundry Foreman's Association.

ALDEN W. BALDWIN, S.B., *Graduate Assistant in Mechanical Engineering.*

Mr. Baldwin is a graduate of the Institute with the Class of 1908 and returned as graduate assistant, devoting a portion of his time to the professional course and the remainder to instruction. He is Professor Read's assistant in the work in the laboratories.

JOHN C. HARVEY, S.B., *Graduate Assistant in Mechanical Engineering.*

Mr. Harvey is a classmate of Mr. Baldwin and is pursuing a similar course of work at the Institute. He is laboratory assistant to Mr. Gallup in the gas-engine experiments. He is a member of the honorary society of Sigma Xi.

RICHMOND W. SMITH, S.B., *Graduate Assistant in Mechanical Engineering.*

Mr. Smith graduated with the Class of 1908 and, like his classmates, is taking up a similar line of work. He is Professor Allen's assistant in the work of the Hydraulic Laboratory.

ALBERT A. NIMS, S.B., *Graduate Assistant in Electrical Engineering.*

Mr. Nims graduated from the Institute in the Class of 1908. Since that time he has been a graduate assistant in electrical engineering. He is a member of the honorary society of Sigma Xi.



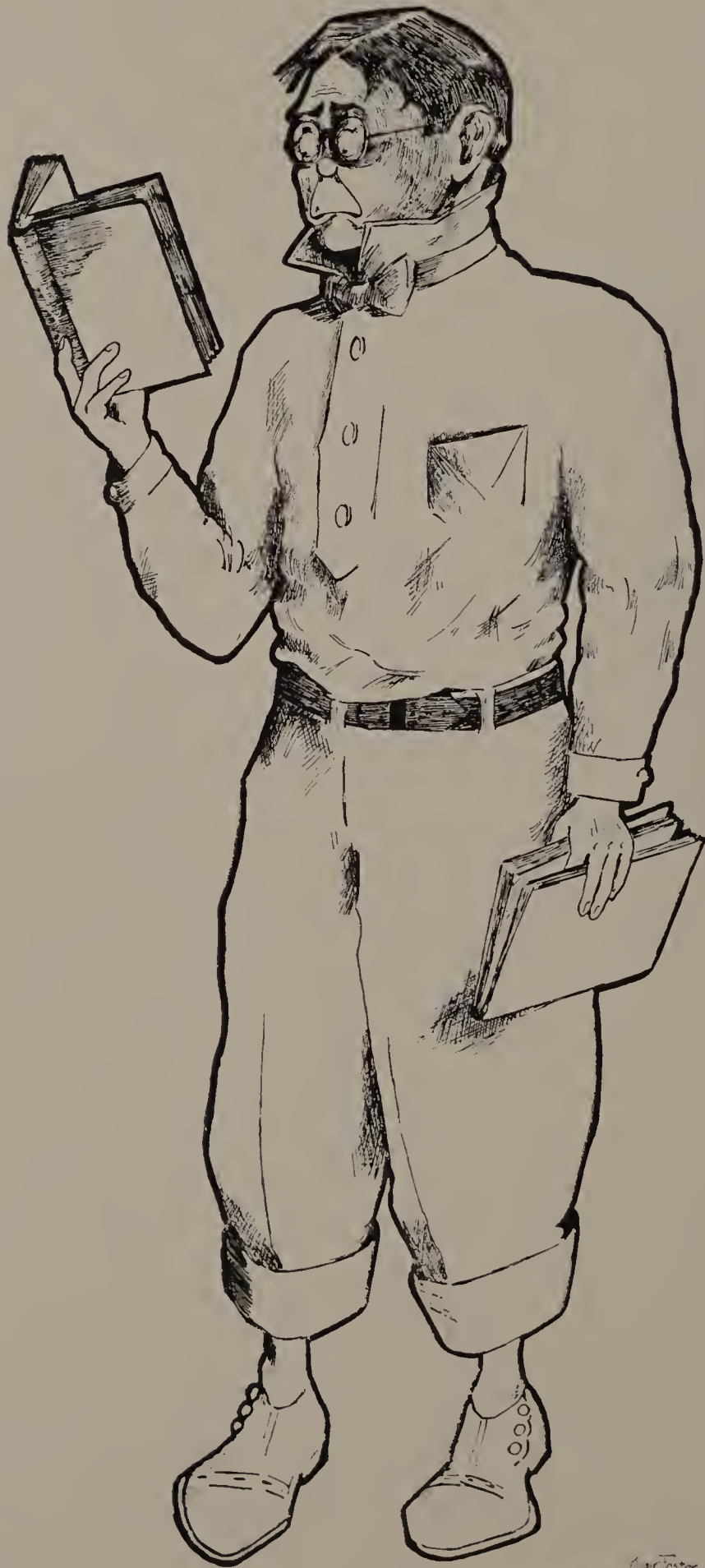
John Kingston Marshall
Registrar

Mr. Marshall was born in 1871 in Halifax, Nova Scotia, Dominion of Canada. In 1881, shortly after the death of his father, he came with his family to Boston, Mass., where he was educated. He came to Tech as Registrar and Secretary of the Faculty in 1894.

Emily M. Haynes, *Librarian.*

Miss Haynes obtained her training in library work at the Library School of the Drexel Institute, supplemented by some experience in actual library work. In 1902 she came to the Institute to take charge of the general library. Her quiet presence in the library hall, her unobtrusive yet capable discharge of her duties have been appreciated by all using the library. She was heartily missed during the winter of 1906-7, which she spent in "doing" Egypt.

SENIOR



1903

SENIOR CLASS

Freshman Year

It was a rather hard-looking aggregation that assembled in Boynton Hall at five o'clock that warm afternoon, September 20, 1905. After we had all got piled into the chapel, it was seen that this was the largest class that had ever entered the Institute, there being some 175 of us. When the confusion had subsided somewhat, Mr. Coombs, for we called him Mister then, arose and brought the meeting to order. He then read the list of those whose applications were satisfactory, and requested those whose names had not been read to confer with the Office and locate the difficulty. Some twenty-five of the unfortunates—or were they fortunate?—then left for the Office.

Dr. Engler then gave us one of his characteristic talks, advising us to work hard lest we be among those left by the wayside. Professor Coombs then gave out the assignments for the next day's work, and told us we could purchase our books and supplies at the "book and supply room." We then descended the winding stairs and fought for a chance to convert our good money into books, triangles, T-squares, and all sorts of glass cups and porcelain plates done up in a large paper envelope.

The first night a few of the more daring freshmen ventured forth with a large pot of white paint, plenty of brushes and proceeded to repaint the shed and all the boulders with those beautiful numerals, ONE NINE NAUGHT NINE. While thus engaged in this civic improvement the sophomores swarmed down upon us and a rough-and-tumble fight ensued. Our class was at a disadvantage not being acquainted, and classmate was wrestling classmate until each found out who the other was. In spite of this we held the field and finished the decorations.

The first days passed rapidly and soon we were accustomed to climbing up to English to hear about "the robber at the ice-house," and learn that the first thing we notice when we come up West Street is the portico on Boynton Hall, or hear H. P. T. Matte read hair-raising themes about the Mid-night Express. Can we ever forget those church receptions, the Y. M. C. A. ice-cream festival, or Kinnie's lecture on chemical change illustrated with zinc and sulphur, and—"O'Regan, get me a beaker"?

In November our class football team met the sophomores on the oval, and in spite of the great work of "Dick," "Babe," "Boots," "Howdy" and the rest, "'08" with the aid of the officials finally vanquished us by the small margin of 5 to 0.

All this time we were busy attending lectures in graphic-algebra, waiting for "Pop," learning how to apply core-paint to "Earl's" collar and blow up the hydrogen generators in the Chem Lab, teaching "Susie" how to dodge chalk in German or keeping "Gimpie" from straining his voice. We certainly believed that all work and no play never did anybody any good, and this fact is proved by the star basketball team we put into the field. This team more than atoned for the defeat of our football team by defeating the sophomores by the overwhelming score of 17 to 4.

The mid-years were soon upon us, and in spite of the efforts of all, a few failed to pull through, while the rest of us spit on our hands and plunged into descript. In trigonometry we were learning to say the sine of the angle, and not abbreviate.

Spring had arrived and we were kept busy wading through the black mud on our way from the Salisbury Labs to Boynton Hall, side-stepping the grippe, and dodging the snowballs aimed at the "Tech Willies" by the North Ashland Street gang. On April 18 the class one and all assembled at the State Mutual Restaurant, and we held a rousing banquet; even the flash-light machine tried to do us honors by blowing to pieces when the picture was snapped.

The days were growing longer and longer and the inclination to work shorter and shorter. The air grew warmer, the grass greener, and spring-fever had struck. At any time we were ready to sneak out of shop, dodge around a corner out of "Chick's" vision and bask in the sun. At last came that memorable Saturday gone down in history as "the log-rolling day." At one o'clock the student body assembled on Alumni Field and under the personal direction and leadership of "Zelotes" we cut down a line of primeval timber and moved a large stone wall. When our spirits were lagging we were refreshed by lemonade and doughnuts kindly provided by the ladies connected with the Faculty.

Soon the finals were upon us and once again our band lost some of its followers. Many of us left soon after exam week, the rest stayed for summer shop practice and the dances at the White City, but soon these, too, had scattered for home, and our freshman year was at a close.

Sophomore Year

One hundred and eight men was our tale when once again we assembled in Boynton Hall chapel to receive our welcome back from President Engler. And here, by the way, we met for the last time *en masse* our friend of freshman English, Professor Coombs. Only in divisions were we henceforth to listen to his trenchant lectures on "Tech Ethics." No more was it to be, "Aberle, Acret, Adams,——." Another freshman class adorned the course in English I, and the resonant roll-call now commenced with "Ahearn" and ended with "Wu, Zink, Zwiebel." "W" was our limit: we never attained to the dignity of "Z."

Some changes on the Hill were apparent; others were reported. It was observed that the new Electrical Engineering Building, which was a fiction when we departed in the previous June, was now partly an accomplished fact, and would be ready for occupancy by the end of the school year. It was reported that some additions had been made to the Faculty, notably Professor Rockwood in the M. E. Department, who was not to trouble any of us that year, and Professor Ives in the C. E. Department, whom we were soon to know. Purdue University sent a contribution in the shape of Messrs. Davis and McConnell, who were to initiate us into the mysteries of machine design. But enough of the Faculty; it's too trifling a matter.

The first general student gathering occurred a few days later at the annual Y. M. C. A. reception, where ice-cream, cake, lemonade, music and speeches were generously supplied. Before the end of September we held our semi-annual election of class officers, at which we made Theodore Olmstead president and J. W. Howe vice-president; Arthur Greenwood and C. G. Spaulding entered respectively the offices of secretary and treasurer.

Marriages, births and deaths are matters of common enough occurrence, but until one becomes *ennuyé* in respect to such happenings they have much significance. Our good Class of 1909 has fortunately not been much disturbed by these events. In September of 1906, however, we were apprised of the fact that Alexander Bronson Campbell, Jr., whilom of '09, had decamped and was about to take unto himself a wife. Farewell, Alexander Bronson! The "Free Institute" was weighed in the balance against *her*, we must presume, and was found wanting.

The athletic season opened as usual with the cross-country runs. There was some fearful mistake. In the first of the series 1909 was decidedly a minor quantity. Frank Jones, chemist, championed the good cause, and since there were only 16 entries Jones pocketed five points. We were glad to observe this promise of an athletic future for Jones. He bore his blushing honors thick upon him for a time. In the other two runs we



fared better by reason of the efforts of Bartlett, Matte, Putnam, Clift, Steere, Bryant and Taber. The final score stood: '08, 171 points; '09, 109 points; '10, 334 points. Bartlett made a good showing. Coming in second in the second run and third in the last of the series, he took sixth place among the individual scores, and could easily have taken third place had he entered the first run.

Peters as quarter-back had rounded out a good team that scored when we were "freshies;" Peters, as coach, knocked together a good team which did not score in 1906. Two tie games were Tech's best showing. At the two home games the school was represented by large delegations of rooters. We did not allow the Academy to score and Academy paid us the same compliment. It was a short game—a practice game, and was altogether "flat, stale and unprofitable." Our Holy Cross game was still more utterly a failure from the standpoint of score, which was 29 to 0, in favor of our opponents; but the game was lively and interesting. Crowther as redoubtable right tackle, and Wagner, alternating with Labrit at right end, were the quota of '09. Crowther played a good game throughout the season at such times when he was not doctoring for "water on the knee." Harmon, Riley, Wagner and Wheelock were participants in several of the 'varsity games. R. W. Crowther was elected a member of the Board of Directors of the W. P. I. Athletic Association, and J. W. Howe was elected secretary to the Board at the annual election of the Association held the day of the game with Holy Cross. So much for athletics.

Before the year 1906 terminated a few members of the class incurred the displeasure of the authorities and won glory among their comrades by a bold attempt to drench the freshman class. This *coup de main* was essayed when the "freshies" were assembled before a photographer in front of Boynton Hall—all with their best faces on. It was, of course, a scurvy trick, and it partially succeeded. The spirit of Huckleberry Finn was with us yet!

With "Dud" Harmon as toastmaster the class held its annual banquet, January 28th, at the State Mutual Restaurant. There was no trouble in sight, except for the dyspeptics the following morning. "Ted" Olmstead toasted the class. Roys enlarged upon the joys of "Tech Life." Greenwood roasted (typographical error; toasted's the word) the faculty. Charles Struck from "Kentuck" expatiated upon the virtues of "The Goils," Bell handled "Athletics," Charlie Lewis answered to "Our Future," C. G. Spaulding to "Our Grinds," and Wagner finished off "In the Limelight." Toucey, Bell and Schofield engineered the affair, and it was pronounced a success.

At the beginning of the second semester Jerome W. Howe was elected president of the Class, H. C. Irving was elected vice-president, while R. E.

Spaulding and R. W. Burpee took office as treasurer and secretary, respectively.

In February we (at least a goodly portion of us) attended the Tech banquet. Here we listened to the bons mots and words of encouragement from the "profs," and in return sent them to the bottomless pit with songs and cheers. T. D. Olmstead spoke for the Class of 1909.

By way of track-team work '09 put Learned, Wagner and Bartlett into the field to help run up the score in the successful track meets of the season. We hope these gentlemen enjoyed their trip to Troy. One man expressed himself to the effect that there was more feminine beauty in evidence there than in any other city which had been favored by his presence. Foolish prattler, know that—

Beauty is but a vain and doubtful good;
A shining gloss that fadeth suddenly.

Furthermore, it occurs to us that Tech functions have always called forth a pretty number of Earth's fairest.

Sophomore-Freshman baseball game, score—let us drink deep of the waters of the river Lethe. It might have been worse, truly; but it was not glorious. And then how they flaunted a banner bearing the offending score high out of reach (as they supposed), and how a few classmen got the abomination down the next morning,—all this will enter the annals of history *as* history. But some of the best history bears a tincture of legend; and there is a legend, not to be gainsaid, to the effect that there was more than one banner in question, and that could pale Diana and doughty Mars, who chased in and out among the clouds that night, speak, they could enlighten the historian in respect to what transpired of plotting and counter-plotting on the sanded roof of the Mechanical Engineering Building between the dusk and the dawn. But their lips are sealed.

All praise be here accorded the Class of 1907 for their laudable and successful efforts to make of Commencement an event of capital importance in the eyes of undergraduates. When one recalls the Oxford Commencement in which "Tom Brown" participated, when one reads accounts of the pageant and festivities entered into at Commencement time by colleges all over the country, Tech Commencement, hustled off the calendar almost before we knew it to be there, as it had been for some years previous to the graduation of the Class of 1907, becomes conspicuous for its beggarliness. But the Commencement of 1907 was a revival of a more glorious past. The ceremony itself, with its speeches and concomitant orchestral "treats," the concert and dance, the tug-of-war where might makes right, the Faculty-Senior ball-game, Catcher Coombs and his lemon, Fielder Bird and his sprinting,—who of us has forgotten?

Junior Year

Again the time of trials and tribulations was at hand, but alas and alack! only eighty-seven of the original one hundred and fifty-two were on deck when we met again in chapel to hear Prexy's usual words of welcome and advice. After the renewal of acquaintances, preparations were made for the event of the season, the Junior "Half-way-Through" banquet. In the spring of the year the banquet plans had been made by the appointed committee, and on the first day the word was passed that the "Warren" was to be the scene of the celebration. By nine o'clock all were on hand and down we sat. Everything had been quietly arranged, and more quietly carried out, but a jousting senior in the rooms below suspected rightly that affairs of great moment were at hand, and the news of the event was spread broadcast. It wasn't long before the usual mob of willing, anxious and envious other classes was about the hotel. But in the meantime things were progressing finely within. The gastronomical bombardment over, Charlie Lewis held forth in his finest vein over the post-prandials, and wit and humor held the boards within, while riotous din held forth without. At last it was time to leave. It is not the object of this historian to write concerning the exit and charge from the hotel, the rushes on the Common, and the snake dance up Main Street; all that is left to another bard, who with more complete detail has painted a glowing word picture in another section of this Aftermath. And thus ended the chief stag event of our course.

The autumn and winter sports next claimed our attention, and Dick Crowther, Howdy Bell, Fred Chapman and Harold Riley made the football team, while Smith was on hand for basketball. About the middle of winter, plans were started for our chief social event, the Junior Prom, and although beset by many difficulties, our sanguine hopes were realized and the affair was under way. April the 21st was the date and Terpsichorean Hall the place, and all who attended will testify as to the enjoyable time.

Spring was soon on deck again with its sports, and here Boots Learned again held forth as of yore on the track team, while Bell was at his accustomed place on the baseball team. But all things come to an end, and it wasn't long before the Civils were doing their surveying protected from the rays of the summer sun by a huge umbrella, and the Mechanics were holding forth as embryo foremen in shop.



1909—JUNIOR YEAR.

Senior Year

When we first came on this campus,
We were freshmen, green as grass.
Now we are the reverend seniors,
Looking o'er the verdant past.

Three long, hard years behind us, and but one too short year of college life to come. This was the thought which pervaded our minds as we shook hands with those of the old guard who had returned. It was on September 23d, at 2.30, that some seventy odd of us assembled in the chapel to start the last year of our life at Tech. We were welcomed by Prexy and Professor Coombs, who saw that we all registered, and gave out work for the Mechanics, Electrics, and Civils, but none for the Chemists, who then, as always, were a privileged crowd. As we were seniors Prexy unbent a little and during the enrollment cracked a joke. It came about in this way: We were asked to fill out blanks for the Government, which seemed anxious to know how many of us were Chinamen, and who were from the Malay Peninsula. Consequently we were told to designate the race to which we belonged—Caucasian, Mongolian, etc.; so some one, afraid of being thought a Fijian, called himself a member of the American race, and Prexy gently asked the young man to tell of which of the Indian tribes he was a member.

We were sent forth from the chapel with a few words of advice as to what our conduct and attitude should be. No longer one of the many, we were now the cynosure of all eyes, and should demean ourselves accordingly. With what severe and critical glances the dignified seniors surveyed the incoming fresh, timidly plodding up the slope for the first time! But they soon tired of such an irksome task, and strolled off arm in arm with old cronies, happy to be back with the fellows once more. Thus ended the first day.

The grooves of Tech life needed no adjustment for us; we fitted them perfectly, and in no time at all we were moving along without jar or friction. At the senior class election for the first half, Whitmore was elected President, and slowly and with due majesty he pronounced our law for the rest of the semester. Charlie Putnam was made Vice-president, and Boots Learned was given his customary job as Chancellor of the Exchequer. Jerry Howe was chosen Secretary, and our dear Earle Sergeant-at-arms.

The call for football candidates found six seniors out for positions on the team. Crowther, Bell, Chapman and Riley valiantly upheld the honor of Tech in many a hard-fought battle. The seniors even condescended to play amongst themselves, and a highly amusing gladiatorial combat was indulged in by the Mechanics and H. B. Smith's pets, in which each rolled



1909—SENIOR YEAR.

the other about in the mud until the white shirt-sleeves of the Electrics could no longer be distinguished from the greasy jumpers of the Mechanics.

On the 14th of November the Chemists departed on a trip of inspection to the Merrimac Chemical Company at Wilmington, Mass. The inspection of the plant took about two and a half hours, but Doctor Calhane's wards needed two days for the trip and one in which to recover. Soon the Christmas holidays approached, and every one began saving pennies and cutting out shows, in order to have enough for car-fare home. After vacation we returned only to face that bogy of Tech—exams. The fates were propitious, however, and we all stayed to start on the last lap with the vision of a sheepskin before us, "for hope springs eternal in the human breast." And now began the winter of our work, for, from the time mid-year exams close until the fields clear and the call of the baseball coach is heard in the land, are three months of awful grind. The burden of that time was enlivened for the senior Electrics by a trip to Boston in the Institute test car, followed by a banquet, at which good fellowship flowed freely. Those Electrics sure did make the miles between Worcester and Boston sit up and take notice of that car.

For the straightaway lap, Riley was chosen President, a position which he filled with honor and credit to the whole class. Hubbell was elected Vice-president, J. W. Howe Secretary, and the class again placed their enormous bank account in the keeping of the redoubtable Boots. The next spark of life was carefully kindled into a flame and took shape in a "Tech" banquet. This enjoyable affair was held at the Worcester Automobile Club rooms. Many were the merry quips and jests which flew around, and the profs were found hiding in the depths of that abysmal pit where they were well done on one side, and then turned and done well on the other side, only to be dragged out and again plunged into that already overcrowded and seething receptacle. They were granted that boon to see themselves as others see them. Not the least enjoyable feature, and one which caused an outburst of applause, was the announcement by President Stratton of the Alumni that Tech would own Alumni Field on the 1st of May, and that a gym building was no longer a shape among the Shadows on the hill.

The year finally tapered down to a few weeks, and came to a point in Commencement Week. The usual round of exercises was held, including a delightful senior hop at Terp, and last but not least a banquet on the night after graduation. Every member of the class came to say, "Auf Wiedersehen—Lehewohl!" to his fellow classmates, and toasts were drunk to that grand old Class of '09. This was the last meeting of many of us, and it made all the more sincere and heartfelt those farewells and wishes of good luck. So ended the undergraduate life of the Class of 1909. Hail, immortal Class! We who knew thee, salute thee.

Senior Class

Mechanical Engineers

Edward F. Aberle
Frank S. Calhoun
Lester H. Carter
Edward A. Clark
Ernest L. Crouch
Frederic R. Ellis
Fred W. Fernald
Arthur Greenwood
Ernest E. Holbrook
Roger B. Hubbell
Harvey C. Irving
Wilfred F. Jones
Vernon C. King

Arthur E. Luce
Earle E. Mann
Arthur C. Merrill
Ammi C. Richardson
Harold J. Riley
Francis W. Roys
Joseph K. Schofield
Thomas H. Sheahan
Harold W. Smith
Raymond S. Squire
Ralph E. Toucey
Ralph D. Whitmore
Edward M. Woodward, Jr.

Civil Engineers

Leon G. Adams
Frank M. Aguirre
Walter I. Barrows
Charles W. Burlin
Roy W. Burpee
Robert W. Crowther
Richard H. Derby
Henry H. Hay
Jerome W. Howe
William H. Hunt

Elwin H. Kidder
John W. Knox
Clyde E. Learned
Charles G. Lidstrom
George N. Palser
Clifton G. Spaulding
Ralph E. Spaulding
Leslie E. Swift
Carl W. Wheelock

Electrical Engineers

Stuart M. Anson
David C. Bacon
George A. Barratt
Roy E. Barton
John A. Doyle
Edward Early
George H. Jenkins
Patrick J. Murphy
James A. O'Neil
Lebbeus A. Parkhurst

Ralph E. Perry
Robert T. Pollock
Charles E. Putnam
Joseph P. Regan
John A. Remon
Howard T. Spaulding
Percy F. Squier
Ray H. Taber
John Woodcock
Yoshiho Yamada

Chemical Engineers

Howard W. Bell
Joseph F. Callahan
Frederick F. Chapman
Charles F. Goldthwait
Frank E. Hawkes
Frank W. Jones

Charles A. Lewis
Harry R. Lewis, Jr.
James H. Searle
Charles C. Steere
Howard B. Warren

Class Officers

FRESHMAN YEAR.

FIRST TERM.

President, F. S. Calhoun
Vice-president, T. D. Olmstead
Secretary, C. G. Spaulding
Treasurer, E. A. T. Hapgood
Auditor, R. E. Perry

SECOND TERM.

President, W. F. Prescott
Vice-president, T. D. Olmstead
Secretary, A. Greenwood
Treasurer, C. G. Spaulding
Auditor, R. E. Perry

SOPHOMORE YEAR.

FIRST TERM.

President, T. D. Olmstead
Vice-president, J. W. Howe
Secretary, A. Greenwood
Treasurer, C. G. Spaulding

SECOND TERM.

President, J. W. Howe
Vice-president, H. C. Irving
Secretary, R. W. Burpee
Treasurer, R. E. Spaulding

JUNIOR YEAR.

FIRST TERM.

President, H. C. Irving
Vice-president, F. W. Roys
Secretary, R. B. Hubbell
Treasurer, C. E. Learned

SECOND TERM.

President, C. G. Spaulding
Vice-president, C. E. Putnam
Secretary, H. J. Riley
Treasurer, C. E. Learned

SENIOR YEAR.

FIRST TERM.

President, R. D. Whitmore
Vice-president, C. E. Putnam
Secretary, J. W. Howe
Treasurer, C. E. Learned
Sergt.-at-arms, E. E. Mann

SECOND TERM.

President, H. J. Riley
Vice-president, R. B. Hubbell
Secretary, J. W. Howe
Treasurer, C. E. Learned
Sergt.-at-arms, F. W. Jones



Glittering Generalities of the Class of 1909

Handsome man in the class?

Jerry Howe takes first place, closely pursued by Spud Greenwood and Howdy Bell in the order named.

Thinks he is?

Bush Perry, Frank Roys and Twau Squire are running a neck-and-neck race, but Bush has the lead by one vote.

Class doll?

Percy Squier and H. T. Spaulding run a tie for first, with Freddie Ellis taking the dust.

Biggest grind?

The inhabitants of 210 ran a close race for the honor, Lizzie Adams taking first, followed hot-foot by Charlie Goldthwait.

Biggest dude?

The class thinks that Twau Squire is the candy kid, with H. T. Spaulding and Jake Schofield as understudies.

Most popular?

Jerry Howe corrals this honor, followed by Cob Irving and Polly Spaulding in the order named.

Most eccentric?

Earle doesn't seem to have any difficulty in landing this position.

Most versatile?

Again Jerry is to the front, with Harold Riley and Joe Callahan placed in order.

Nerviest?

John Remon and Frank Roys divide the honors for first, with Dick Crowther, Punk Early and China Merrill scrapping it out for second.

Grouchiest?

John Remon and China again qualify in the order named, with Frank Calhoun bringing up the rear.

Best dressed?

Here it is that Howdy Bell is first in line arrayed.

Thinks he is?

H. T. Spaulding labors mostly under this misapprehension, with Twau and Frank Roys in about the same frame of mind.

Windiest?

Punk crosses the line first blowing hard, while Murphy and Roys are stretched out on the grass gasping for breath.

Best-natured?

Harold Smith gets first place, with Doc Hubbell, Polly Spaulding and Eppie Putnam dividing second money.

Hardest to rattle?

From out of the school of sharks R. E. is hooked first, with Ralph Whitmore and Pete Taber still in the swim.

Biggest sport?

Howdy Bell beats Twau out by a few votes, who in turn has it on Riley.

Laziest?

The majority, including the Electrics, seem to think that Remon's name looks pretty good here, with Howdy Bell and Punk taking second and third in a leisurely manner.

Most energetic?

Jerry is first, with Touse and Fred Ellis synchronized for second.

Greatest fusser?

The Worcester ladies have brought influence to bear and Percy Squier is the leading ladies' man, with H. T. and Touse collecting the remains in the order named.

Greatest social light?

Toucey has a strangle hold on first, with Crazy Hawkes further down the ladder.

Meekest?

As predicted by the weather bureau Eddie Woodward wants the place the most.

Best athlete?

Dick is the cream cheese in this department, with Howdy drawing second.

Greatest jollier?

Harold Smith flings the lingo most deceptively, with Bob Pollock and Whit trying to fool each other.

Easiest rattled?

Jimmie Searle and Charlie Burlin are shaking the bones for the honor, with Aberle as referee.

Easiest jollied?

Charlie Burlin again qualifies, with Jocko hanging to his coat-tails.

Wittiest?

Charlie Lewis is our leading disciple of Simeon Ford, with Polly shooting off a few hot ones now and then.

Most original?

There are a lot of contestants for the place, but R. E. takes the position, followed by Charles Lewis and Polly Spaulding.

Done most for W. P. I.?

The vote goes to Jerry by a large majority, with Dick next in line.

Most melancholy?

The crowd believe that Sandow Bacon and Spud Greenwood are the logical successors of Hamlet.

Noisiest?

Punk makes the loudest splash, with Boots Learned dodging the drops.

Most sarcastic?

Frank Roys gets the honor by a good majority, with Punk crying his eyes out in disappointment.

Most broad-minded?

Jerry Howe, Harold Riley and Joe Callahan are the chief manipulators in intellectual junk in the order named.

Most narrow-minded?

Earle Mann and Frank Calhoun here follow each other with uniformly accelerated motion.

Most conceited?

Frank Roys seems to be considered the best candidate, with John Remon and Twau Squire hitting the trail in order.

Best dispositioned?

Pete Knox is the chief glow-worm in this garden, accompanied by Harold Smith as a lesser light.

Slowest talker?

After calm and thoughtful deliberation on the part of the entire class the honor is awarded to Ralph Whitmore.

Most dignified?

Palser is an easy winner, with R. E. Spaulding and Charlie Steere hanging onto the band wagon.

Among the Mechanics—

Spud Greenwood is considered the best mechanical engineer, Riley the brightest, and Frank Roys the biggest bluffer.

With the Electrics—

Eppie Putnam thought to be the best electrical engineer, H. T. Spaulding the brightest, and John Remon the biggest bluffer.

In the Civils—

R. E. Spaulding is picked as the best engineer and the brightest, while with one exception Palser is thought to be the biggest bluffer.

Among the Chemists—

Charlie Steere is picked for the place of best chemist, while Charlie Lewis is the brightest. Hawkes is the biggest bluffer according to results.

“Among the over-lords”—

Professor Conant is considered the best professor, with Professor Bird giving him a run for the money.

As to who is the most difficult professor to recite to, Dr. Ewell wins, hands down, although Prof. A. L. Smith is seen in the distance.

The class considers that Professor French is the hardest to bluff, although Professor Bird can ward them off a few.

Dan O'Regan beats Dr. Ewell out for first place with regard to who is the most rattling.

Prof. H. B. Smith is calculated to be the most polished, with Dr. Haynes a near rival.

As to who is the most popular professor there are a lot of contestants, but in the close struggle Professor Coombs is carried to the tape, with Mr. Fish hot-footing it for all he is worth to get second place.

The vote for the most sarcastic goes again to Mr. Gallup.

The class considers that Professor Conant is the kindest professor, followed by Professor Phelon and Mr. Fish.

In the vote for the most broad-minded, Dr. Haynes has the field almost to himself.

Doctor Kinnicutt is considered the most eccentric, with Dr. Ewell in second place.

Prof. H. B. Smith wins the place of the neatest without any trouble.

In the consideration of the pleasantest professor, Professor Coombs takes another first, followed by Professor Allen.

Although the class assumes that all of the powers-that-be are bright, Professor French is considered the brightest, with Prof. H. B. Smith and Dr. Haynes next in order named.



Junior Promenade

The start of our Prom was not so propitious as we could have hoped for. But a poor beginning deserves a good ending. What the start lacked, the Prom itself made up for.

As an example of the unrosy nature of the beginning of the Prom, on the night of the occasion itself, let us tell you of the launching out of the head of the class at that time—the dignified, portly President. For fear of embarrassing him, we will let you look up his name rather than putting it in print here.

It was rumored at the time of the Prom that the incumbent of the office of President was so long in beautifying for the leading of the expected grand march that never came, that he kept his carriage waiting outside for a half an hour. When his appearance assumed his idea of that of the leading man, he proceeded to his long waiting carriage singing, “If you can’t be the bell cow, fall in behind.” His air of self-repose was considerably shaken when he heard feminine voices within. In reply to Harrington’s question, “Where else is the carriage going?” he had brilliantly given his partner’s address. And he said, “I’m so sorry.” What he thought and she thought, we will leave to your guess.

The Prom was held at Terpsichorean Hall on the evening of April 21, 1908. Terpsichorean looked fresh and inviting with its color scheme of green and white, and palms to match. Banners covered the side walls and were strung across the hall. Everywhere we were reminded of Tech, and a large ’09 banner over the balcony above all the rest made the thought uppermost in our minds that not only were we Tech men but ’09 men as well. And we were glad of it.

As to the crowd, we hate to say it, but it was certainly the finest that ever graced Terpsichorean, or any hall in fact.

Our favorite profs were there. Other favorites were with us as well, and, incidentally, they were the pick of the land. We danced, we talked and were gay. Perhaps we may have gone in the Pullman—but that is giving away family secrets. All conditions were picked and suited for the best social time that has marked our four-year stay, and we had the time of our life.

When we were saying our farewells to our friends, the title of our

good-night dance, “Auf Wiedersehen,” came often to our minds, and we wished to meet again such a good time and such a congenial crowd as we had at our Junior Prom.

Committee

Ralph E. Toucey, *Chairman*, Roy W. Burpee, Frank E. Hawkes,
Charles E. Putnam.

Patrons and Patronesses

Dr. and Mrs. Edmund A. Engler, Dr. and Mrs. Leonard P. Kinnicutt,
Dr. and Mrs. George H. Haynes,
Dr. and Mrs. Walter L. Jennings.

DANCES

- | | |
|--|--|
| 1 <i>Two-step</i> —“Stunner” | 14 <i>Two-step</i> —“Wanna Loo” |
| 2 <i>Waltz</i> —“Dolores” | 15 <i>Waltz</i> —“Wedding Dance” |
| 3 <i>Two-step</i> —“Good Bye, Henry” ... | 16 <i>Two-step</i> —“Musette” |
| 4 <i>Waltz</i> —“Mary McGee” | 17 <i>Waltz</i> —“Roses Bring Dreams of
You” |
| 5 <i>Schottische</i> —“Cross Roads” | 18 <i>Schottische</i> —“Smile, Smile, Smile” |
| 6 <i>Waltz</i> —“Waltz Dreams” | 19 <i>Waltz</i> —“Santiago” |
| 7 <i>Two-step</i> —“I’d Like to Meet Your
Father” | 20 <i>Two-step</i> —“Yankee Tar” |
| 8 <i>Waltz</i> —“Sweetheart Days” | 21 <i>Waltz</i> —“That’s What the Rose
Said to Me” |
| 9 <i>Barn Dance</i> —“Won’t You be My
Honey?” | 22 <i>Barn Dance</i> —“Mr. Noah” |
| 10 <i>Two-step</i> —“Second Connecticut” . | 23 <i>Two-step</i> —“Summer Time” |
| 11 <i>Waltz</i> —“L’Estudiantina” | 24 <i>Waltz</i> —“Merry Widow” |
| 12 <i>Two-step</i> —“New Colonial” | 25 <i>Two-step</i> —“I’m Afraid to go Home
in the Dark” |
| 13 <i>Waltz</i> —“Dreaming” | 26 <i>Waltz</i> —“Auf Wiedersehen” |
- INTERMISSION.



FRESHMAN BANQUET.

Banquet of the Class in its Freshman Year

This gastronomic-oratorical function was the means of gathering us all together in good fellowship for the first time. It was held the evening of the 18th of April, '06, so most of our mortifying trials were over. We were still freshies, to be sure, but we were no longer so fresh as to be made the butt of the upper classmen. Peace had at length stolen into our souls, and this banquet was in a sense a thank-offering to the gods that we were still alive and happy.

We had discovered the fact before, but never had it been so strongly impressed upon us as at this time, that we possessed real talent in our body and much of it. On the fly-leaf of the handsome menu appeared the following verse:

“The joys of Tech life are superb;
Of this before we’ve often heard.
We work from dawn till setting sun,
And then our work’s one quarter done.
We plug till late, and then remark,
That strolling out through Elm Park
Would soothe our bumping, thumping brain,
And make us feel more fit again
To go and work some more.”

The poet’s name was not revealed, but rumor had it that the lines were Irving’s (not Washington), and we could well credit it.

The dinner was held at the State Mutual Restaurant, and after a sumptuous meal we started in to deliver ourselves of our pent-up oratory, so followed these toasts:

Toastmaster, Alexander B. Campbell.

THE CLASS OF 1909,
THE FACULTY,
1909—HER FUTURE,
“IN MEMORIAM,”
THE FAIR SEX,
ATHLETICS,
AS OTHERS SEE US,
CLASS SPIRIT,

Walter F. Prescott.
Raymond S. Squire.
Myron K. Sweet.
Howard B. Warren.
Ernest A. T. Hapgood.
Carl W. Wheelock.
Jerome W. Howe.
Harvey C. Irving.

The committee in charge of the banquet comprised Dudley Harmon, Alexander B. Campbell, Myron K. Sweet and Theodore D. Olmstead—dear, departed shades, all of them, so far as their connection with '09 is concerned. But their faces we remember well, and their services we applaud.

The Second Annual Banquet of the Class

Our second banquet was held at the State Mutual Restaurant January 28, 1907. The list of toasts is here given:

Toastmaster, Dudley Harmon.

CLASS OF 1909,

TECH LIFE,

OUR PROFS,

“DE GOILS,”

ATHLETICS,

OUR FUTURE,

OUR GRINDS,

IN THE LIME-LIGHT,

Theodore D. Olmstead.

Francis W. Roys.

Arthur Greenwood.

Charles M. Struck.

Howard W. Bell.

Charles A. Lewis.

Clifton G. Spaulding.

Charles B. Wagner.

The committee who were responsible for the affair, which proved to be in every way a success, was composed of Ralph E. Toucey, Howard W. Bell and Joseph K. Schofield.

Half-way-through Banquet

The Half-way-through Banquet of the class was held at the Warren on the first day we returned to our labors at W. P. I. We stole a complete march on the rest of the school—the freshmen did not know what such an occasion was, and the sophomores and seniors were, as usual when '09 planned anything, asleep at the switch. They slept soundly, too, until after nine o'clock, when the whole west side was aroused by wild shouts: "Junior banquet at the Warren! Everybody out! All out, freshmen get out, down to the Warren! 1908 out, Half-way-through at the Warren!" The freshmen came, the sophomores came with them to show them the way. The seniors left their fussing corners and set sail for the egg stores or gathered up the eggs they had put away to ripen last year. The price of stale hen fruit as well as other fruit took a sudden jump. Some belated senior, arriving from the wilds of Westfield, had discovered us at the Warren on his way up Front Street from the depot.

Our banquet was the most successful ever held, as usual when '09 set out to do anything. Charlie Lewis was toastmaster and presided over the affair to perfection after the inner man was satisfied. Frank Jones smoked his first cigarette; we all knew Jonesy was a sport; all he needed was the proper atmosphere. The Faculty was well taken care of by "Punk" Early; his specialty was to tell us how to get on with Doctor Ewell. Roys was to answer to the "Fair Sex," but could not leave them long enough to speak, so his place was filled by Toucey, who seemed to have their fine points down very well. Buckingham told us all about the unexpected, especially that brand met with in the Chemistry Laboratory. Roger Hubbell gave us his views of summer practice, both that at the shops and that outside. Riley took care of the athletic side very ably. Jerry Howe gave us "Those Dear Departed" in his very best manner, and last but not least came Frank Jones on "The Spirit of 1909," to prepare us for the noisy crowd outside.

About this time the lights went out, due to the kind efforts of the senior class in the lower regions of the hotel. It was far too early to break up the crowd below, so we had several impromptu speeches. Pete Sweet declared they were the best part of the programme. At last we decided it was time to put the rest of the school to flight, and with Knox and

“Boots” Learned at the head we started out. The crowd of ’08, ’10 and ’11 threw a scattering volley of various fruits and fled toward City Hall with ’09 right on their heels. There were several seniors who could not run fast enough rolling around on the pavement before we reached the City Hall.

The seniors, sophs and freshies got all out of breath by the time they reached Main Street, or they would be running yet. After much exertion they were banded together, given the advantage of the down-hill side, and the battle was on, no respect being paid to the “Newly Seeded” signs. We went through the bunch as Professor Coombs does through an English lecture. Then they tried again, but it was no use; all the Institute was nowhere against a united ’09. Still they wanted more, and they got it in a basket. We rolled them, and hauled them, and mauled them; then we picked up the pieces. They decided enough was plenty, so hand in hand and voices blending (or not) in the “Pie Song” we started for Prexy’s house. The next day the bulletin board was decked with caps, derbies, etc., found on the field, the Warren was all spattered up with eggs and so were our clothes; but what mattered these? We were half way through and had celebrated in a fitting manner.

Waste vs. Waist

Doctor Mangold (in water supply): “Mr. Knox, can you tell me the different kinds of waste?” (Referring to city water-wastes.)

Knox: “There are two kinds of waists. In order to find waists, they have night inspection trips. If they suspect that there is a waist in a certain house, they watch it from the outside, and if they find their suspicions correct, they enter and make a closer investigation.”

Annual Tech Banquet

On March 25, 1909, the seventh annual banquet of the Faculty and students was held in the rooms of the Worcester Automobile Club, and as usual was a success in every way. The seniors showed their loyalty to Tech by turning out to the number of sixty, a little better than a third of those present. After the repast was over and the customary grinds on the Faculty had been gotten off, Professor Coombs took the chair and handled the toasts in his usual capable manner. The large majority of his jokes were new, a somewhat novel feature at a banquet. An innovation which met with unqualified approval was the introduction of an outside speaker in the person of President Stratton of the Alumni. He gave a short talk on carrying on the work for Tech after graduating, and his remarks were greatly appreciated, especially when he made the statement that Alumni Field would be turned over to the Institute by May 1st.

President Engler and Professor Butterfield of the Class of '93 were the speakers from the Faculty, and were well qualified to do their part. The various classes were represented by the following men, all of whom acquitted themselves very creditably, showing signs of future greatness in oratory :

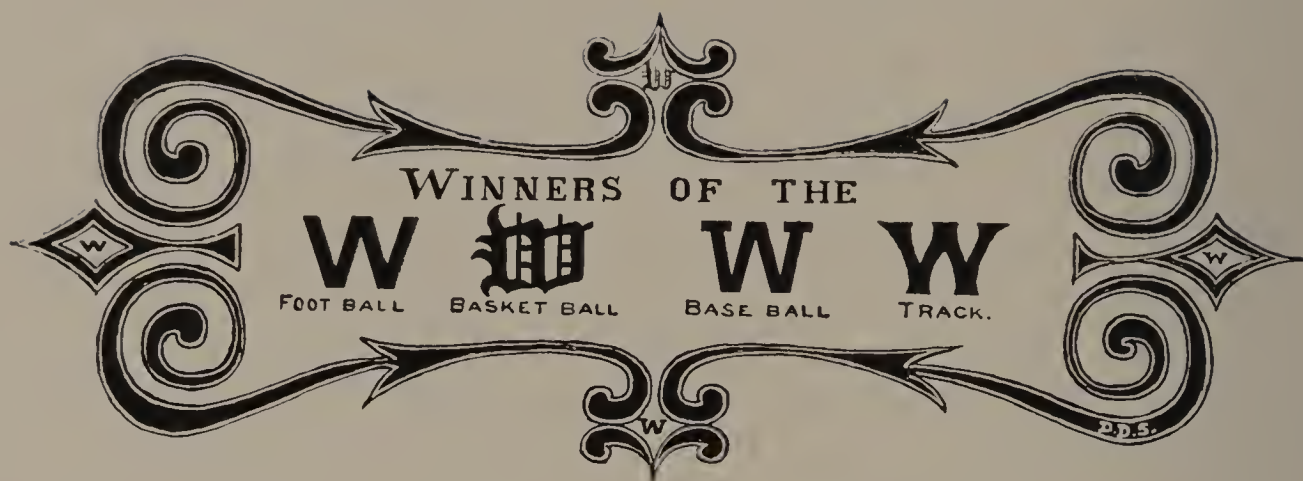
H. C. Irving, 1909.

C. A. G. Pease, 1910.

Edward H. Classen, 1911.

W. T. Potter, 1912.

The committee in charge was composed of: H. C. Irving, chairman; R. E. Spaulding, F. F. Chapman, H. J. Riley, C. A. G. Pease, E. H. Classen and W. T. Potter. It will be noticed that R. E. and Chappie were the only modest men on the committee.



Football

H. W. Bell
 R. W. Burpee (manager)
 F. F. Chapman

R. W. Crowther
 H. J. Riley

Baseball

H. W. Bell

F. F. Chapman (manager)

Basketball

H. W. Smith

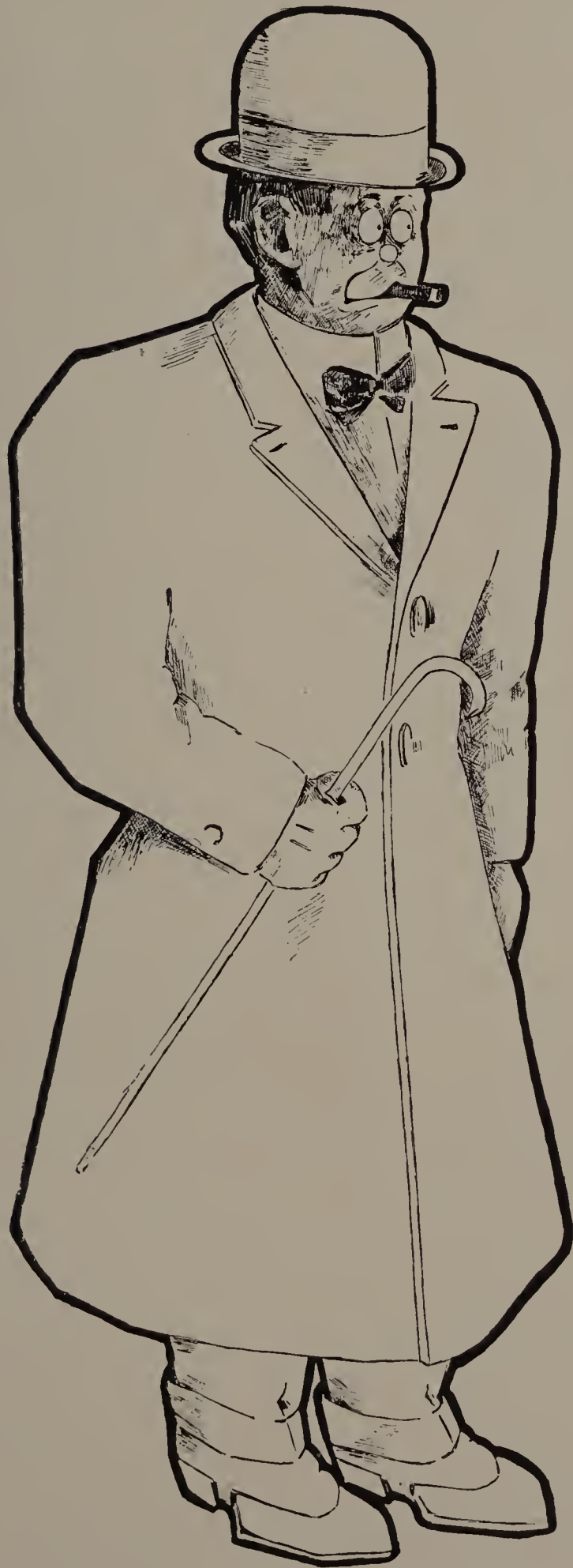
C. W. Wheelock (manager)

Track

J. W. Howe (manager)

C. E. Learned

JUNIOR



BlagFaster
1/2/23



JUNIOR CLASS—1910.

Junior

“Ahearn, Allen, Amsden, Armour”—how distinctly I remember the first English lecture, when Professor Coombs first complimented us for our “commendable regularity,” and told us about the giant robber of the ice-house. We were fresh and green indeed, and thought we were meeting the celebrities of the world when first we recited algebra to “Gimpy” Brown, English to “Susie” Chase, and “Dutch” to A. M. Works. Awe is no name for the feeling we had when we met “Johnny Sine Square,” “Conie,” “Kinnie” and the rest. We wanted to laugh at “Chickadee” Tilden, but did not dare, so only drew pictures of him with the black shellac. Yes, we were like a flock of timorous sheep when we started; but then came the cross-country runs, and football and basketball.

It certainly does give a class backbone to come out victorious in athletics, and we sure did reach out far in that direction. We easily won the cross-countries, and secured a strong representation on each of the Varsity teams. It was our class that started the inter-class spirit, which has been rising ever since, and has made Tech more like a liberal college than it has been for years. We inaugurated the custom of gray caps with red buttons for the class following in the path we had trodden, and printed the freshman rules, which are now thoroughly established as an annual feature. Nor were we content to give the freshmen caps and rules; we gave them a beating in the cross-country runs and in basketball. Again we were first in track, with baseball and football claiming their share of our attentions.

Now, as we advanced, analyt., calculus, physics, the mysteries of electricity—all were delved into. We met Professor Duff and his family: the “Horse,” “Schusme” and C. Fletcher. “Pa” with his straw hat, and “Johnny” Jernberg entertained us during summer practice, when began our junior year.

Now life seemed more serious than ever, and for the first time we really began to work. Kinematics, mechanics, least squares, electricity—they went through our ranks like a Maxim gun, and we had hardly time to win the cross-country runs—to make athletics in general more popular and powerful than ever.

Oh, it’s a good class; but Tech for 1910 is not over yet.

The lazy junior turned heavily around, breathed a deep sigh, lit a cigarette, and queried of the fair maiden beside him,

“And when does your school close?”



SOPH



Blair Foster
1908



SOPHOMORE CLASS—1911.

Sophomore, or the Tale of the Class of 1911

After the feelings of newness had worn off, the Class of 1911 settled down to enjoy the freshman life. We were extremely fortunate in having worthy opponents in the class above, who invited us to buy caps of a shape and design peculiar in itself. This was done, presumably with the idea of being better able to distinguish us from the upper classes. These caps were a burden at first, but, after winning the rushes, football game, and losing to a superior basketball team by only an insignificant amount, we gladly cast them to the flames of the largest bonfire seen on Tech Hill that year.

In the midst of spring, both 1911 and our rival class had some trouble in getting a satisfactory picture taken, and almost every day for nearly two weeks somebody of either class would take an involuntary plunge in the cool waters of the pond. But the little differences were settled peacefully, and we left the Institute for the summer vacation with rules, caps and the like ready for our under classmen.

Our sophomore year began in a most auspicious manner, and the caps sold as fast as they could be delivered, while the rules, which had been pasted everywhere in evidence, were rigidly enforced. Then there came to us the greatest misfortune that could befall any class—the loss of one of our classmates. Emil S. Gran, Jr., was severely injured in the class rushes and died a few weeks after. The entire school was deeply grieved over this sad affair, and particularly those who knew him best—his classmates; for a more noble, true-hearted, straightforward fellow could not have attended the Institute. As a result of this misfortune 1911 passed resolutions pledging themselves to do all in their power to abolish class rushes and like forms of expressing class feeling that would be a danger to life or limb.

So much of our spirit had by this time been lost that we ceded the football game to the freshmen by a most unsatisfactory score. After a time, however, we returned to our old snap and vim by winning the basketball game handsomely. The baseball game is at this writing yet to be played, but with one of the strongest teams that has represented a class for some years, 1911 should come out on top.

Thus our second year comes to a close with the best of chances that we may graduate a large class if the present rate of decrease does not become larger.



FRESH





FRESHMAN CLASS—1912.

Fresh ! Fresher !! Freshest !!!

The Class of 1912

June finds the green wearing off the freshman class, for which all are rejoicing, especially the freshmen themselves. In September about 150 young and soft students entered the Institute as freshmen and began their battles against the horrors of algebra and the treachery of Tilden's buzz saw. When the smoke cleared away from the battle-ground of the class rush, the freshman banner of green waved high. Our colors were put at half-mast, however, when we learned of the sad death of Emil Gran of the sophomore class.

The word "football" brings a blush to the faces of our arch-enemies, the sophs. In the words of Milton, "There wasn't nothin' to it;" 17 to 0, and then we were not breathing hard. Then came the famous mid-year exams, and only four succumbed to the combined efforts of the Faculty. This fact alone ranks the minds of the present 1912 men with those of Webster and Calhoun. So spring has found us with the class rush and football game safely tucked under our wing. The basketball game slipped past us, much to our sorrow; but we can not expect to win all the time. When the call for Varsity football men went out, the freshman class came nobly to the front and gave seven men as our offering to the god of the pigskin. In fact, when the team was on the field we felt as if we, the freshmen, were proprietors and owners.

Some of the talent of the class took the form of basketball, and many of the freshmen could be seen shooting goals for W. P. I. In track the relay team had two freshmen on whom they depended for large gains and, although they wore gray caps with red buttons of a gorgeous hue, they could make flying seem a thing of the near future.

Baseball was right in the line of some of the class, and in their hands the balls executed curves compared to which the curves of descrip. were straight lines.

But in summing it up we can only say that the Class of 1912 stands high both from an athletic and intellectual standpoint, and, from the falling of the leaves to the shouting of the baseball fans, the class has been able to say, "Tech, here's the class you have needed all the time."

The Journal of the Worcester Polytechnic Institute

Jerome W. Howe, '09, *Editor-in-chief*.

Carlyle A. Atherton, '10, *Assistant Editor*.

Philip S. Cushing, '11, *Assistant Editor*.

Representing the Alumni, - Charles Baker, '93, Worcester, Mass.

William P. Dallett, '81, Philadelphia, Pa.

W. Hadwen Mitchell, '05, Washington, D. C.

Ernest L. Thrower, '01, Cleveland, O.

Frank H. Drury, '79, Chicago, Ill.

Robert H. Taylor, '95, San Francisco, Cal.

Leonard Day, '02, Brooklyn, N. Y.

Louis C. Smith, '92, Boston, Mass.

Percy E. Barbour, '96, Goldfield, Nev.

Prof. George H. Haynes, *Managing Editor*.

Associate Editors

Prof. A. W. French, Prof. A. W. Duff, Prof. C. M. Allen, Prof. J. O. Phelon, Dr. Frederic Bonnet, Jr.

Ralph E. Toucey, '09, *Business Manager*.

Clarence A. G. Pease, '10, *Assistant Business Manager*.

Edward H. Classen, '11, *Assistant Business Manager*.

The Journal is published on the first day of November, January, March, May and July.

FRATERNITIES



Foster
1912



PHI GAMMA DELTA HOUSE.



Phi Gamma Delta

Pi Iota Chapter

Established November 20, 1891

1909

Harry Earl Ballard
Arthur Greenwood
Henry Homer Hay
Harvey Cobden Irving
Clifton Gould Spaulding
Ralph Edward Toucey
Carl Williams Wheelock

1911

Edwin Donald Beach
Charles Foster Goodrich
Warren Ballou King
Rollin Terry Read
Richard Sanderson
Alanson Eugene Stewart
Ralph Myron Wilder

1910

Karl Ernest Herrick
Harry Lee MacGregory
Whitney Scovil Porter
James Frederick Thompson
Harold Everett Waring
William John Rabb Weir
Albert Lewis Worthen

1912

Eric George Benedict
Frederick Bertram Cleveland
George Peleg Dixon, 2nd
David Blair Foster
William Theodore Gaul
Edward James Moffatt
Ivan Panin, Jr.
Lyman Marshall Smith
Fred Burnside White

Phi Gamma Delta

Founded at Washington and Jefferson, May 1, 1848

Roll of Chapters

Graduate Chapters

Alpha, Lafayette, Ind.
Beta, Indianapolis, Ind.
Kappa, Chicago, Ill.
Xi, New York, N. Y.
Omicron, Pittsburg, Pa.
Tau, Denver, Col.
Chi, Toledo, Ohio.

Psi, Cincinnati, Ohio.
Seattle, Seattle, Wash.
Lincoln, Lincoln, Neb.
Lambda, Dayton, Ohio.
Delta Mu, Detroit, Mich.
St. Joseph, St. Joseph, Mo.

Active Chapters

SECTION 1.		SECTION 8.	
Univ. of Maine,	Omega Mu	Denison,	Lambda Deuteron
Massachusetts Tech,	Iota Mu	Wittenburg,	Sigma
Worcester Tech,	Pi Iota	Ohio State,	Omicron Deuteron
Brown,	Pi Rho	Ohio Wesleyan,	Theta Deuteron
Dartmouth,	Delta Nu		
Amherst,	Alpha Chi		
SECTION 2.		SECTION 9.	
Trinity,	Tau Alpha	Wabash,	Psi
Yale,	Nu Deuteron	De Pauw,	Lambda
Columbia,	Omega	Hanover,	Tau
New York,	Nu Epsilon	Indiana,	Zeta
		Purdue,	Lambda Iota
SECTION 3.		SECTION 10.	
Colgate,	Theta Psi	Tennessee,	Kappa Alpha
Cornell,	Kappa Nu	Bethel,	Nu
Union,	Chi	Alabama,	Theta
Syracuse,	Sigma Nu	Texas,	Tau Deuteron
SECTION 4.		SECTION 11.	
Univ. of Penn.,	Beta	Illinois Wesleyan,	Alpha Deuteron
Lafayette,	Sigma Deuteron	Knox,	Gamma Deuteron
Lehigh,	Beta Chi	Illinois,	Chi Iota
Johns Hopkins,	Beta Mu	Michigan,	Alpha Phi
		Wisconsin,	Mu
SECTION 5.		Minnesota,	Mu Sigma
Bucknell,	Delta	Chicago,	Chi Upsilon
Gettysburg,	Xi		
Pennsylvania State,	Gamma Phi		
SECTION 6.		SECTION 12.	
Virginia,	Omicron	Iowa State,	Alpha Iota
Washington and Lee,	Zeta Deuteron	Missouri,	Chi Mu
Richmond,	Rho Chi	William Jewell,	Zeta Phi
SECTION 7.		SECTION 13.	
Washington and Jefferson,	Alpha	Colorado College,	Chi Sigma
Allegheny,	Pi	Kansas,	Pi Deuteron
Wooster,	Rho Deuteron	Nebraska,	Lambda Nu
Adelbert,	Xi Deuteron	Texas,	Tau Deuteron
		SECTION 14.	
		California,	Delta Xi
		Stanford,	Lambda Sigma
		Washington,	Sigma Tau





SIGMA ALPHA EPSILON HOUSE.

Sigma Alpha Epsilon Fraternity

Massachusetts Delta Chapter

Established March 10, 1894

ACTIVE MEMBERS.

1909.

Howard Withy Bell
Joseph Francis Callahan
Frederick Francis Chapman
Robert William Crowther
Charles Adams Lewis
Harry Richard Lewis, Jr.
Raymond Samuel Squire
Harold Wilder Smith

1911

Howland Starkweather Brown
Claude Moulton Goodrich
Horace Zebina Landon
Wallace Tenny Montague
James Arthur Patch
Joseph Andrew Payette
Everett Manning Spicer
Nelson Wing

1910

William Wilson Armour
Edward Reynolds Downe
Robert Fulton Gifford
Lewis Stanwood Hooper
Clarence Grover Pease
Frank Lamb Root
Claude Bertram Thomas
Meurice True Wells
George Richard Wholean
Robert Edward Zink

1912

John Wesley Cline
Clifton Cromwell Clough
Edward Irving Comins
Chester Arthur Dodge
Alton Hayward Kingman
John Donald Power
Theodore Corsen Wheaton, Jr.

Sigma Alpha Epsilon Fraternity

Founded at the University of Alabama, March 9, 1856

Roll of Chapters

PROVINCE ALPHA	Maine Alpha, Massachusetts Beta Epsilon, Massachusetts Iota Tau, Massachusetts Gamma, Massachusetts Delta, New Hampshire Alpha,	University of Maine Boston University Massachusetts Institute of Technology Harvard University Worcester Polytechnic Institute Dartmouth College
PROVINCE BETA	New York Alpha, New York Mu, New York Sigma Phi, New York Delta, Pennsylvania Omega, Pennsylvania Phi, Pennsylvania Alpha Zeta, Pennsylvania Zeta, Pennsylvania Delta, Pennsylvania Theta,	Cornell University Columbia University St. Stephen College Syracuse University Allegheny College Dickinson College Pennsylvania State College Bucknell University Gettysburg College University of Pennsylvania
PROVINCE GAMMA	Washington City Rho, Virginia Omicron, Virginia Sigma, North Carolina Xi, North Carolina Theta, South Carolina Gamma,	George Washington University University Virginia Washington and Lee University University of North Carolina Davidson College Wofford College
PROVINCE DELTA	Michigan Iota Beta, Michigan Alpha, Ohio Sigma, Ohio Delta, Ohio Epsilon, Ohio Theta, Ohio Rho, Indiana Alpha, Indiana Beta, Indiana Gamma, Illinois Psi Omega, Illinois Beta, Illinois Theta, Minnesota Alpha, Wisconsin Alpha,	University of Michigan Adrian College Mt. Union College Ohio Wesleyan University University of Cincinnati Ohio State University Case School of Science Franklin College Purdue University University of Indiana Northwestern University University of Illinois University of Chicago University of Minnesota University of Wisconsin

PROVINCE EPSILON	Georgia Beta, Georgia Psi, Georgia Epsilon, Georgia Phi, Alabama Iota, Alabama Mu, Alabama Alpha Mu,	University of Georgia Mercer University Emory College Georgia School of Technology Southern University University of Alabama Alabama Polytechnic Institute
PROVINCE ZETA	Missouri Alpha, Missouri Beta, Nebraska Lambda Pi, Arkansas Alpha Upsilon, Kansas Alpha, Iowa Beta, Iowa Gamma,	University of Missouri Washington University University of Nebraska University of Arkansas University of Kansas University of Iowa Iowa State College
PROVINCE ETA	Colorado Chi, Colorado Zeta, Colorado Lambda, California Alpha, California Beta, Washington Alpha,	University of Colorado University of Denver Colorado School of Mines Leland Stanford, Jr., University University of California University of Washington
PROVINCE THETA	Louisiana Upsilon, Louisiana Tau Epsilon, Mississippi Gamma, Texas Rho,	Louisiana State University Tulane University University of Mississippi University of Texas
PROVINCE IOTA	Kentucky Kappa, Kentucky Iota, Kentucky Epsilon, Tennessee Zeta, Tennessee Lambda, Tennessee Nu, Tennessee Kappa, Tennessee Omega, Tennessee Eta,	Central University Bethel College Kentucky State College Southwestern Presbyterian University Cumberland University Vanderbilt University University of Tennessee University of the South Union University





ALPHA TAU OMEGA HOUSE.

Alpha Tau Omega Fraternity

Massachusetts Gamma Sigma

Instituted 1906

Roger Earle Coolidge

Donald Howe Mace

CLASS OF 1909.

Ralph Edgar Perry

Joseph King Schofield

CLASS OF 1910.

Everett Bacon Collins

Charles Whitney Morden

Howard Fowler Fritch

Barrett Beard Russell, Jr.

James Gordon Goodell

James William Tabb, Jr.

Philip Alexander Hamilton

Francis Sylvestre Twomey

Frank William Jackson

Wallis Cowl Watson

Richard Christopher Lancaster

Walter John Foley

CLASS OF 1911.

Harold Russell Frizzell

Robert Henry Wolcott

Fred Warren Kennedy

Edward Heil Classen

Martin Herman Jachens

CLASS OF 1912.

Leon Howard Sargent

Hiram Loring Jenkins

Ernest Smith Jefferies

Clarence Allen Howes

Guy Carleton Hawkins

Alpha Tau Omega Fraternity

Founded at Virginia Military Institute, 1865

Roll of Chapters

PROVINCE I

Alabama Alpha Epsilon,	Alabama Polytechnic Institute,	1879
Alabama Beta Beta,	Southern University,	1885
Alabama Beta Delta,	University of Alabama,	1885
Florida Alpha Omega,	University of Florida,	1884
Georgia Alpha Beta	University of Georgia,	1878
Georgia Alpha Theta,	Emory College,	1881
Georgia Alpha Zeta,	Mercer University,	1880
Georgia Beta Iota,	Georgia School of Technology,	1888
Louisiana Beta Epsilon,	Tulane University,	1887
Texas Gamma Eta,	University of Texas,	1897

PROVINCE II

Illinois Gamma Zeta,	University of Illinois,	1895
Illinois Gamma Xi,	University of Chicago,	1904
Indiana Gamma Gamma,	Rose Polytechnic Institute,	1893
Indiana Gamma Omicron,	Purdue University,	1904
Michigan Alpha Mu,	Adrian College,	1881
Michigan Beta Kappa,	Hillsdale College,	1888
Michigan Beta Lambda,	University of Michigan,	1904
Michigan Beta Omicron,	Albion College,	1889
Wisconsin Gamma Tau,	University of Wisconsin,	1907

PROVINCE III

California Gamma Iota,	University of California,	1899
Colorado Gamma Lambda,	University of Colorado,	1901
Iowa Beta Alpha,	Simpson College,	1885
Iowa Gamma Upsilon,	Iowa State University,	1908
Kansas Gamma Mu,	University of Kansas,	1901
Minnesota Gamma Nu,	University of Minnesota,	1902
Missouri Gamma Rho,	University of Missouri,	1906
Nebraska Gamma Theta,	University of Nebraska,	1897
Washington Gamma Pi,	University of Washington,	1905

PROVINCE IV

Maine Beta Upsilon,	University of Maine,	1891
Maine Gamma Alpha,	Colby College,	1892
Massachusetts Gamma Beta,	Tufts College,	1892
Massachusetts Beta Gamma,	Massachusetts Institute of Technology,	1906
Massachusetts Gamma Sigma,	Worcester Polytechnic Institute,	1906
Rhode Island Gamma Delta,	Brown University,	1894
Vermont Beta Zeta,	University of Vermont,	1887

PROVINCE V

New York Alpha Lambda,	Columbia University,	1881
New York Alpha Omicron,	St. Lawrence University,	1882
New York Beta Theta,	Cornell University,	1887
Pennsylvania Alpha Iota,	Muhlenberg College,	1881
Pennsylvania Alpha Pi,	Washington and Jefferson College,	1882
Pennsylvania Alpha Rho,	Lehigh University,	1882
Pennsylvania Alpha Upsilon,	Gettysburg College,	1882
Pennsylvania Tau,	University of Pennsylvania,	1881

PROVINCE VI

North Carolina Alpha Delta,	University of North Carolina,	1879
North Carolina Xi,	Trinity College,	1872
South Carolina Beta Xi,	College of Charleston,	1885
Virginia Beta,	Washington and Lee University,	1865
Virginia Delta,	University of Virginia,	1869

PROVINCE VII

Ohio Alpha Nu,	Mt. Union College,	1882
Ohio Beta Eta,	Ohio Wesleyan University,	1887
Ohio Alpha Psi,	Wittenberg College,	1883
Ohio Beta Mu,	Wooster University,	1888
Ohio Gamma Kappa,	Western Reserve University,	1901
Ohio Beta Omega,	Ohio State University,	1892

PROVINCE VIII

Tennessee Omega.	University of the South,	1887
Tennessee Alpha Tau,	Southwestern Presbyterian University,	1882
Tennessee Beta Pi,	Vanderbilt University,	1889
Tennessee Beta Tau,	Union University,	1890
Tennessee Pi,	University of Tennessee,	1876
Kentucky Mu Iota,	University of Kentucky,	1909

1856



Theta Chi

Established at Norwich University, 1856

Chapter Roll

ALPHA—Norwich University, Northfield, Vermont.

BETA—Massachusetts Institute of Technology, Boston, Mass.

GAMMA—University of Maine, Orono, Maine.

DELTA—Rensselaer Polytechnic Institute, Troy, N. Y.

EPSILON—Worcester Polytechnic Institute, Worcester, Mass.

Epsilon Chapter

Established 1909

1909

Stuart M. Anson
Ernest L. Crouch
Frederic R. Ellis
Fred W. Fernald
Frank E. Hawkes
Wilfred F. Jones
Robert T. Pollock
Howard T. Spaulding

1910

Carlyle A. Atherton
Norman G. Chamberlain
Will W. Dolliver
Walter P. Green
Willard Hedlund
Raymond E. Kelley
Sherman Lougee

1911

A. Leroy Atherton
Edward E. Bard
F. Bryant Bigelow, Jr.
Carleton M. Brown
Ralph E. Harrington
Frederick V. Hugo
Charles A. Pellett
Carl R. Weidenmiller
John L. Warren

1912

Nelson E. Frisseli
Frank H. Plaisted
Kenneth I. Tredwell



KAPPA XI ALPHA HOUSE.



Kappa Xi Alpha

1909

Established in 1902 as THETA CHI

Fratres

F. Monzon Aguirre

Kenneth R. Allen

Walter E. Arthur

Alden W. Baldwin

Vaughn D. Griffin

Don A. Hamilton

George A. Hickerson

Albert S. Littell

Arthur E. Luce

Timothy R. Lyons

Arthur C. Merrill

Robert W. Mungall

Samuel E. Nims

Stuart A. Nims

James A. O'Neil

Cyril B. Raymond

John A. Remon

Francis W. Roys

Waldo L. Sherman

Ray H. Taber

Guy F. Whitney

KAPPA XI ALPHA HOUSE—9 John Street.

Delta Tau Fraternity

Active Members

Charles E. Barney
Charles S. Hallenbeck
Harold E. Hartwell
John C. Harvey
Leslie M. Harvey
L. Lawrie Holmes
Jerome W. Howe
Thomas C. Howe
Carl P. James
James H. Litchfield
J. Richard Maxcy

Robert E. S. Pope
William I. Randall
Harold J. Riley
John B. Romer
James C. Ryder
George H. Slocomb
Arthur C. Soule
Frederick A. Spencer
Edward O. Strong
Ralph D. Whitmore

DELTA TAU HOUSE—66 Park Avenue.



Society of the Sigma Xi

Worcester Chapter

Established May 7, 1908

Charter Members

Edmund A. Engler, Ph.D., LL.D.	Alton L. Smith, M.S.
Leonard P. Kinnicutt, S.D.	Charles M. Allen, M.S.
Levi L. Conant, Ph.D.	Joseph O. Phelon, M.M.E.
George H. Haynes, Ph.D.	Albert S. Richey, B.M.E.
Walter L. Jennings, Ph.D.	Arthur W. Ewell, Ph.D.
Harold B. Smith, M.E.	Howard C. Ives, C.E.
Arthur W. French, C.E.	George R. Olshausen, M.E., Ph.D.
A. Wilmer Duff, D.Sc.	Frederic Bonnet, Jr., Ph.D.
William W. Bird, S.B.	Joseph D. Williams, Ph.B.

The Object of the Society

The object of this society shall be to encourage original investigation in science, pure and applied; by meeting for the discussion of scientific subjects; by the publication of such scientific matter as may be deemed desirable; by establishing fraternal relations among investigators in the scientific centres; and by granting the privilege of membership to such students as have, during their college course, given special promise of future achievement.

Alumni Membership

Erwin A. Adams, M.E.	Walter F. Lawley, S.B.
Sidney W. Farnsworth, E.E.	Philip J. Rowell, S.B.
Charles S. Frary, M.E.	George H. Ryan, S.B.
Robert T. Cole, S.B.	Ray L. Stinchfield, S.B.
Lyman F. Copeland, S.B.	John E. Woodbury, S.B.

Active Members

Edmund A. Engler, Ph.D., LL.D.	Alton L. Smith, M.S.
Leonard P. Kinnicutt, S.D.	Charles M. Allen, M.S.
Levi L. Conant, Ph.D.	Joseph O. Phelon, M.M.E.
George H. Haynes, Ph.D.	Albert S. Richey, B.M.E.
Walter L. Jennings, Ph.D.	Arthur W. Ewell, Ph.D.
Harold B. Smith, M.E.	Howard C. Ives, C.E.
Arthur W. French, C.E.	George R. Olshausen, M.E., Ph.D.
A. Wilmer Duff, D.Sc.	Frederic Bonnet, Jr., Ph.D.
William W. Bird, S.B.	William F. Holman, Ph.D.
D. F. Calhane, Ph.D.	Elmer H. Fish, S.B.
Carleton A. Read, S.B.	Robert C. Sweetser, S.B.
Arthur D. Butterfield, M.S., A.M.	Charles B. Harrington, M.S.
Albert T. Childs, E.E.	John C. Harvey, S.B.
George Y. Lancaster, S.B.	Albert A. Nims, S.B.
Robert H. Goddard, S.B.	Royal W. Davenport, S.B.
Donald H. Mace, S.B.	Lyle G. Fear, S.B.
William A. Darrah, S.B.	

1909

Leon G. Adams	Harold J. Riley
Walter I. Barrows	Francis W. Roys
Charles F. Goldthwait	Ralph E. Spaulding
Arthur Greenwood	Charles C. Steere
G. Norman Palser	Ray H. Taber
John A. Remon	Ralph D. Whitmore

Chapters

Brown University	University of Illinois
Case School of Applied Science	University of Indiana
Colorado State College	University of Iowa
Columbia University	University of Kansas
Cornell University	University of Michigan
Leland Stanford University	University of Minnesota
Northwestern University	University of Nebraska
Ohio State University	University of Missouri
Rensselaer Polytechnic Institute	University of Pennsylvania
Syracuse University	University of Washington
Union College	University of Wisconsin
University of California	Worcester Polytechnic Institute
University of Chicago	Yale University

The Cosmopolitan Club

At many of the large universities, such as Harvard, Wisconsin, Cornell and Yale, there have been established clubs composed of the foreign students of the universities, for the purpose of bringing about a more friendly intercourse between these students and promoting a better understanding of each country whence these students came. as regards religion, science, arts and customs. Politics and international questions form no small part of the discussions at their meetings. In 1907 all these clubs formed the Association of Cosmopolitan Clubs with eight chapters, to which there have been added three unchartered chapters; and many more are in the making. The constitution and by-laws were drawn up, and to-day the importance of the Association may be judged by the notables who lately gathered together at the Harvard chapter, such as the German ambassador, the Japanese ambassador, and President Eliot.

The Worcester Club was founded at Tech, October 17, 1908. The following are members:

President, Frank M. Aguirre

Vice-president, Noël N. Totti

Recording Secretary, James Poole

Corresponding Secretary, Etienne Totti

Treasurer, Chen S. Huang

Yoshiho Yamada

Otto H. Eschholz

Olan I. Lee

Pedro M. Capdevila

Vartan G. Ovhanessian

Hachiro Yamada

Yu-shu Chin

Rafael Vidal

Hubert P. T. Matte

The members from the Faculty are:

Prof. George R. Olshausen

Prof. Zelotes W. Coombs

Prof. Walter L. Jennings

Prof. A. Wilmer Duff

Dr. Edmund A. Engler (honorary member)

Student Christian Association of the Worcester Polytechnic Institute

The oldest living student organization at Tech is the Young Men's Christian Association. It had its beginning back in the student prayer meetings which have been held since the opening of the Institute. In 1891 the local Association was organized as a part of the International Association, and has had a healthy existence ever since.

As a Christian organization, the Association encourages and tries to develop a manly and positive Christian life among its members and the student body. Its work is varied. Every fall, at the opening of the Institute, it conducts an Information Bureau and publishes a handbook for the benefit of new students and also, as it turns out, for the benefit of every student. The opening week a reception is given the freshmen and they have a chance to hear about the various activities of Tech life. Regular meetings are held each Wednesday evening. These are in charge of the members, and are sometimes led by students, while frequently outside speakers of interest are secured. The Association also conducts Bible and Mission Study Classes, which meet weekly on some afternoon convenient for the members thereof. These are the most interesting features of the Association's work and develop lively and unbiased discussions by the students of questions of interest and value.

There is no official connection between the Tech and the City Y. M. C. A., but, through the courtesy of the latter, members of the student Association have limited membership privileges at the City Association, and a membership ticket in the former is accepted for its face value toward a membership in the latter. This year the Tech Association has drawn a little closer to the City Association, and has furnished several workers, chiefly in the Educational and Industrial Departments.

The membership at present numbers about fifty, and includes men from all the classes, the instructors and the Faculty. The officers for the year 1908-1909 are:

OFFICERS.

President, R. D. Whitmore, 1909
Vice-president, R. G. Gold, 1910
Treasurer, C. A. G. Pease, 1910
Recording Secretary, J. B. Patch, 1910
Corresponding Secretary, M. F. Clement, 1910

COMMITTEE CHAIRMEN.

Bible Study, M. F. Clement, 1910
Mission Study, R. S. Haggard, 1910
Religious Meetings, V. C. King, 1909
Handbook, H. E. Stowell, 1911
Information, O. B. Jacobs, 1910
Reception, W. F. Jones, 1909
Membership, R. G. Gold, 1910
Finance, C. A. G. Pease, 1910
Northfield, A. A. Nims, 1908
Industrial Work, J. A. Bullard, Williams, 1908

Facts

Of the total number of 488 students registered at the beginning of the year 105, or 21.5%, are from Worcester; 330 are from the State of Massachusetts, or 67.5%, while 13 of the number are foreign, or 2.76%.

Of the 76 members of the senior class 16, or 21%, are from Worcester; 52, or 68.5%, are from Massachusetts, while 4, or 5.25%, are foreign.

The ratio of students to instructors is 10.2 to 1.

The average weight of the graduating class is 152.6 pounds avoirdupois.

The average age of the senior class is 22 years 10 months 27 days.

With regard to the political faiths of the class, 72% profess Republicanism, and the other 28% are divided among many parties and beliefs anywhere from Union Labor to Katherine Tingley.

The average amount of sleep that the members of this class get, not including lectures, amounts to about 7 hours and 29 minutes per diem.

Sixty-three per cent. of the members of this class admit that they smoke tobacco, while thirty-six per cent. claim that they do not. The remaining one per cent. are assumed still to be faithful to cornsilk and cubebs.

Thirty-two per cent. of the class wear glasses and naturally sixty-eight per cent. do not.

Wellesley is the favorite woman's college, claiming 31%, while Smith is a close favorite with 27%.

Personal Sketches







Harold J. Riley

CLASS PRESIDENT.

HAROLD JAMES RILEY, Λ T, Σ Ξ , *Mechanic*.

Way back in the winter of '87 the desire sometime to enjoy the blessings of civilization formed itself in the mind of a precocious infant, and, as a result, when we find Winnipeg printed all over our drawing-boards, books and the like, we know that Riley has been around. His career at Tech has been well-balanced and creditable. He has made his W on the football field three years, and when he can't work off his steam there, he uses it rough-housing, being rivalled only by his running-mate, Whit. As treasurer of the Y. M. C. A. he got so in the habit of collecting the not-without-which that he has been running a collection agency ever since. H. J. is a natural-born shark and studies on the average nearly half an hour a day. Nevertheless, his marks are way up in the front row, and he is one of the favored few who have been admitted to Sigma Xi. He enjoyed the graft as a member of the Picture Committee the first half of the senior year, and for the second semester was chosen Class President. Our best wishes go with Riley, for he deserves the best of success.



Edward F. Aberle.



Leon G. Adams



F. Wenzon Aguirre.



Stuart M. Anson.

EDWARD FREDERICK ABERLE, *Mechanic.*

Every one remembers that first roll-call starting with Aberle, and Abe is still at the head of his class alphabetically. He first held forth in Bridgeport, Conn., on August 15, 1879, a fact that makes him one of the old men of the class. After obtaining his grammar school education, he became a journeyman machinist, and in that capacity has seen a lot of this part of the country. But the hankerings for knowledge were too much to overcome, and sprucing up at the University School in the city of his birth, he entered Tech with 1909. Throughout his course he has been Tommy's running mate, and likewise one of the administrators of Newton Hall. Things have gone all right for Abe so far, and they will, we hope, in the future.

LEON GEORGE ADAMS, $\Sigma \Xi$, *Civil.*

Lizzie opened his dark, luminous eyes on this workaday world April 30, 1887, in the furthestmost recesses of the back woods, Hadley, Mass., which, we distinctly remember from our study of local history, boasts of a blockhouse and a hair-raising Indian scrap or two. We were not so far advanced in our microscopical examinations as to discover that Hadley possessed a high school; but we are advised that such exists, and that Leon took his departure of his lovely classmates at that institutionlet just prior to poking his nose in at Boynton Hall and precincts. Lizzie has acquired a vast amount of worldly knowledge while at Tech, all of which will be of great advantage to him as he bucks up against a very much sophisticated world, and for all of which he should be very grateful to his not altogether naïve classmates. For the rest, Leon has been very politely attentive to the fair ones *et al.*, and still more obediently attentive to his studies. He is in all respects a model youth.

FRANK MONZON AGUIRRE, $K \Xi A$, *Civil.*

Aggie respirationed for the first time on the 23d of September, 1887, in the metropolated atmosphere of New York city. Have you ever heard of Cushing Academy? From such data as we have been able to compile, we are prepared to state that Aggie and Cushing Academy were at one time synonymous. The list of his activities is too long to enumerate. And this abridged phenomenon played Sinbad the Sailor and revolutionized for a while down in Santo Domingo. At least, he participated in a revolution to the extent of hearing the bullets displace the atmosphere above his head while he embraced the floor in the attempt to escape them. Naturally, he wrote back to Worcester in a most calm and collected fashion, when later in 1906 he visited the scene of the Cuban revolution during its incipient stages. Experience such as Frankie's breeds content. Since Aggie has been at Tech he has boiled down his energies and concentrated them upon civil engineering. And he does not care for girls—in the plural. Aggie descended to us from '08. We thank '08.

STUART MINTON ANSON, $\theta \Lambda$, *Electric.*

Stew first discovered the difference between mother's and the other kind down in the little village of Brooklyn, N. Y., on August 15th, 1886. By the time he got ready to prep for Tech he had an argument with Dick Croker on how to run Tammany Hall, so he left Brooklyn disgusted, and entered the English High School at Worcester. While there he came out for the cross-country, with visions of its coming in handy some day when hungry. Entering Tech, he kept up his cross-country practice, but only while the dew was on the clover of his time here at Tech. He gave up the cross-country, and made an effort to increase harmony at school with Put by joining the musical association. Stew knows piles about fan motors and their eccentricities, so we can look for the proper breeze from him later.



David C. Bacon.



George A. Barratt



Walter J. Barrows



Roy C. Barton.

DAVID COBURN BACON, *Electric*.

Dear old Sandow started to get pickled in this world's goods on September 22, 1884, at a mistake on the map called East Jaffrey, N. H. He prepped at Worcester High. and entered Tech to take up arms against the many pretty dames in Worcester and thereabouts. He became a genuine, first-class destroyer in that respect. Dave earned a good name for himself in that never-to-be-forgotten Electric-Mechanic football game. Sandow has always got a few rounds left in him for everything, and always comes out of a thing smiling.

GEORGE ALBERT BARRATT, *Electric*.

George glub-glubbed and dar-darred for first practice on October 18, 1887, at Millbury, Mass. He qualified for the preliminaries, so came in for the semi-finals at Millbury High School. A hankering for the city and Y. M. C. A. life led George to finish his preparatory education at the English High School, Worcester. After stewing a while at Tech, he brought honor to himself, his family, and to his country by his valiant work with the Senior Electric football team. He was a noble article in football togs. A great many people like snowstorms, and a great many do not. George is one of each. He really likes a snowstorm, but as his thesis was on a snow-plow, of course he needed snow. He didn't get it, so no test was made. Did George smile a great big smile? Sandow says he did, but Sandow was jealous.

WALTER IRVING BARROWS, $\Sigma \Xi$, *Civil*.

Beerows first participated in mundane affairs March 25, 1887, when he appeared on the scene in Worcester, Mass. History makes no extravagant mention of Barrows until he graduated, in due course of time, from the South High School of his native borough. He won distinction as a draftsman far back in our junior year, and carried off a prize consisting of a set of drawing tools, which he has since wielded very cleverly. Barrows is a capable craftsman, a bright youth, and does things "by main strength."

ROY E. BARTON, *Electric*.

Roy calmly drifted onto this glorious dump April 17, 1886, at Dalton, Mass. He seems to have kept right on drifting calmly until he struck Tech, because no rough or notorious spots appear in his career up to that time. No record is found of his having prepped for Tech. but we guess he took some kind of a mess into his cranium, as he has shown up well here. He has retained his same calm grin for the four years here, and passed to the lovely stage of supporting himself in a sort of "Veni, vidi, vici" style.



Howard W. Bell.



C. W. Burlin



Roy W. Burpee



Frank S. Calhoun

HOWARD WITHY BELL, *S. A. E., Chemist.*

Sauntered lazily into his paternal home on Aug. 22, 1885. Since that day he has been the pride of Andover, his movements in the wide world being faithfully chronicled by the "Andover Blizzard." "Howdy" attended Phillips-Andover Academy in a graceful and leisurely manner, and in 1904 arrived in Worcester prepared to become a Tech student. He did not like the bunch of '08, and becoming weary of them, he took a trip to California the latter part of the year, and returned to enter with the glorious Class of '09. Bell passed a quiet year in (a) study, but in the spring jumped into prominence by making the Varsity ball team at right field, a position he held the rest of his life at Tech. He had also played quarter on the freshman football team and this, together with his fine appearance in the baseball picture, made him a well-known man. The next year he played on the sophomore football team. Junior year he made himself famous by his rendition of the Tenth Commandment in English 3, showing him to be of a religious turn of mind. In this year he made the Varsity football team, and played a fine game against Holy Cross. His last year he was elected captain of the baseball team, and led them in a most successful season. "Howdy" was always quiet and gentle, but when he really wanted to he could work with the best of them.

CHARLES WILLIAM BURLIN, *Civil.*

Charles sampled the terrestrial atmosphere in Worcester, August 19, 1886, and finding it to his liking took up his abode in these whereabouts. Emanating from the North-bridge High in 1904, he soon flocked to our standard, and is now a promising '09 civil with a recognized standing in the cult of steel metallurgy. It has been observed, however, in this connection that A. L.'s knowledge of this subject and Burlin's did not grow on the same bush. Fencing, and more particularly the gentle art of boxing as taught and practiced in the C. E. Department, find in Burlin an accomplished devotee.

"What's the matter, Charlie? Want to borrow my Aftermath? Can't see it, Charlie—may want it a dozen years hence to refresh my memory as to the cut of your physiognomy. Sorry; p'r'aps you can borrow one from Burp or C. G."

ROY WILLIAM BURPEE, *Civil.*

Burp was neither dull enough nor great enough to make Sigma Xi; but the rest of us think just as highly of Burp. He does not show a decided taste for labor, yet he does accomplish things.* He has a way of shouldering through studies and exams without taking overdue notice of them, which leaves him plenty of time to devote to football and Aftermath and "bridge."

Leominster, Mass., hatched him forth May 20, 1886, and Leominster nourished him, and has the credit for teaching the wheels of his brain to move so smoothly. He was all manner of high-mightinesses back in Leominster High, and he has been a fine body of men, as we all know, since his advent at Tech. He has had some pretty active engineering of late summers, and we are prepared to venture a successful future for Burp.

FRANK SANDFORD CALHOUN, *Mechanic.*

Frank was born on March 11, 1884, in Terryville, Conn., but soon migrated to Bridgeport. He drifted through High School with the Class of 1904, but stayed out a year to enter Tech with the rest of the mob of Connecticut Yanks that invaded Tech in 1905. During his incumbency as our first freshman class president, he became an experienced African dodger, but his stentorian voice could always be heard above the din of battle and strife. Thus far he has slid through Tech quiet, unassuming, yet ever at work and now ranks along with the best. He is said to be about prepared to enter a partnership. How about it, Frank?



Joseph F. Callahan



Lester H. Carter



Frederick J. Chapman



Edward A. Clark

JOSEPH FRANCIS CALLAHAN, *S A E, Chemist.*

“Joe” is a Worcester product; he first saw the light in the Heart of the Commonwealth on January 12, 1886, and has lived here ever since. He graduated from the South High School with the Class of 1905, and after long deliberation decided to come to Tech. Immediately on entering he became famous; first, the fact that he began in early youth to use the razor caused his heavy beard to be the envy of more than one tender-faced freshman, and second, his ability to transcribe German into English soon made many eyes weak from overstraining. “Joe” chose the Chemistry course, not from necessity, but from preference; and despite the assertion after each and every exam “stung again,” he has made good. As a chemist his specialty is steel analysis, and he is considered an authority on “dry analyses” as well. When the Aftermath Board was appointed, Callahan’s name was on the list, as it was well known that his merry wit would help fill the pages. “Cal” is genial, obliging, and a good fellow generally; never a grind, but always near the top, he has won the good will of his division and class.

LESTER HALE CARTER, *Mechanic.*

Who is this who drags his slow length along, his Jacksonian chapeau at a prominent angle, a broad smile of joy and contentment overspreading his physiognomy, following the glowing end of a Pittsburg stogie? As that famous “Hy thar” smotes the ether, it reveals the fact that it is none other than Lester Carter, late of Gardner, Mass., who started sporting on the 16th day of November, 1886. Graduating from the Gardner High School in 1905, he entered Tech with the Class of 1909. As might be intimated from our first view of our quondam up state friend, he is fond of the weed in all forms, but has a special fondness for the well-renowned Pittsburgers, with which it is said he became acquainted early in his course. A hard-worked man truly is Lester, but his slow methodical methods have kept him on the right path so far.

FREDERICK FRANCIS CHAPMAN, *S A E, Chemist.*

After defying the attacks of eighteen alarm clocks, finally awoke with a start, yawned once or twice and ascertained that the date was August 6, 1886, and that he was to try to bring honor to the home of his nativity, Westfield, Mass. “Chap” snatched hot liners from the short-stop position and on more than one occasion brought victory to the W. H. S. When “Chap” struck Tech he was modest his freshman year and did nothing in the line of athletics. He played on the class football team his sophomore year, and on the Varsity team his junior and senior years. “Freddie” was also manager of the baseball team his junior year. “Chap’s” genial smile and pleasant disposition have helped to make him one of the most popular men on the hill and everyone joins in wishing him the best of success when he leaves Tech.

EDWARD AINSWORTH CLARK, *Mechanic.*

History relates that E. Ainsworth took his first gulp of the ethereal blue on the 16th day of September, 1884, in the town of Rutland, Mass. He learned his P. D. Q.’s at Cushing Academy, but rested on his laurels for a year before joining the immortals. Our class boasts of no married men, but ——. He is said to live in the burg of Winchendon, but claims Dorchester as his residence. Some of us are still hard at work on the mystery. Clark was one of the heroes and the chief participant in the Chaffins conflagration, but what he felt sore about was the revocation of his firm’s permit. Hard luck, Ed.



Ernest L. Crouch.



Robert W. Crowther.



Richard H. Derby



John A. Doyle

ERNEST LEROY CROUCH, *θ A, Mechanic.*

The records of the town of Thomaston, Conn., show that "Missa Crooth" calmly and unobtrusively put his best foot forward on the 26th day of November, 1886. He next sequestered himself in the city of Bristol, and graduating from the High School entered Tech as per schedule. Throughout his life on the Hill he has been very prominent in class athletics, playing on our freshman and sophomore baseball, football and basketball teams, and captaining the Mechanics football team, and the all-star aggregation of ball tossers that is to be pitted against the Faculty. He is a calm, cool, patient and quiet youth, doing everything that comes up to be done. That helps some.

ROBERT WILLIAM CROWTHER, *Σ A E, Civil.*

Dick's general characteristics are so strongly marked that you cannot miss 'em. You'll know the minute you spot him that he has football in him; and you'll guess that he's good-natured, and an earnest plodder when he is engaged in anything that interests him. In these respects he toes up to the mark. He is culpable enough, however, when it comes to his relations toward Lizzie and Earle. We think Earle might have become a civil but for Crowther.

Dick has battered about somewhat since his birth in Claremont, N. H., on June 23, 1885. After Worcester English High came Holy Cross, where he starred for a spell in football. Then he toured through the West and Dixie, finally turning up at Tech.

We positively couldn't have got along without him. As tackle he has been indispensable on the Varsity, and for Tech athletics in general he has been largely responsible; for he has served throughout as a director of the W. P. I. A. A., and latterly as its President. The Civils have never forgiven Dick for hitting the pike with Burp one summer and robbing the Chaffin camp of his *camaraderie*.

For Captain Crowther of '09,—everybody!—one! two! three!!

RICHARD HENRY DERBY, *Civil.*

Svenska first rippled into one of his rollicking convulsions soon after his genesis into Springfield, Vt., on the 7th of October, 1885. And he was a genuine godsend to the Civils when long afterward he bubbled into their midst, after getting the raw edges of his optimism worn off at the Springfield High and the Vermont Academy. He was a footballist back in his preparatory days; but he shunted football for the show, as a recreation, when he dawned upon this centre of the theatrical world, with its unparalleled Poli's.

Svenska has been the outrage—and the salvation—of the Civils. When they would vociferate and blaspheme over Reddy, and then, later, over hydraulics, Svenska would simply laugh—and then there was nothing to it. Derby swallowed an N₂O generator back in his precocious infancy, and what else could you expect? Ah, but we shall miss the melody of him!

JOHN ARTHUR DOYLE, *Electric.*

John joined the ranks of mothers' joys on May 13th, 1887, at Worcester, Mass. After a short lapse of time, he began to grow, and caused considerable worry to his parents by this blooming growing. He grew out of everything that his folks put him into. First primary, then grammar, high, Green's drug store, and, finally, Tech. He led a gumshoe campaign while in High and Tech, and as there are no detectives on the board, nothing could be gleaned on the side for tabulation in this book of knocks. John's thesis was on insulators for clotheslines. He will probably come forth with a book on such construction, and will give a large-sized gun with every book.



Edward Early.



Frederic R. Ellis



Fred W. Fernald



Chas. F. Goldthwait.

EDWARD EARLY, *Electric*.

The only and original Punk made a good stab at being born on the same day as he of first in peace. He missed it owing to his anxiety, and landed on his feet February 19, 1886. He has been father of hot air and oratory ever since. Punk was born in Worcester, prepped at Worcester High and Worcester Academy, and is still laying down the unwritten law for those in Worcester who will listen to him. While at prep school he felt the inspirations of Ten Eyck strike him so that he made the crew. Ed bids fair to become a mess of intellectual junk, but he has our highest hopes.

FREDERIC ROBERT ELLIS, *θ N, Mechanic*.

Freddie first partook of his Mellen's food in the city of Bath, England, on December 21, 1886, fittingly the shortest day of the year. Boarding a descendant of the Mayflower, he came to Ellis Island when he was five years old, and settled in West Pittston, Penn., where he wrinkled his cranium a few, and graduated from the High School in the Class of 1905. Freddie has always been a prominent member of our aggregation, his natural cuteness standing in good stead. He is quite an athlete, being prominent in the athletics of the class, and being quarterback in the Senior Mechanic team. During the past year he has held sway over the book and supply department, but Freddie is as honest as he looks. Together with Peanut, he was Mr. Fish's consulting engineer, but his early training stood him in good stead, and he wasn't phased in the least. Fred is a member of the business board of this book. Our best wishes go with him.

FRED WILLIAM FERNALD, *θ N, Mechanic*.

Fred claims a variegated existence—he first began chasing the sea-crabs down at Rockport on January 21, 1886. History relates that after that he sampled education in one-year lots in different climes—South High and English High in Worcester, Cooper Union, New York, and Pomona Preparatory School in Pomona, Cal.—he then entered Pomona College and finished his sophomore year. The call of the East was too much for Freddie to overcome and he entered Tech at the beginning of our second year. He has a great affinity for certain of the Boston theatres, and it is said that he, together with Harold Riley, once led Ralph Whitmore from the beaten trail. However, Whit refuses to be interviewed and we can't believe all the reports that emanate from certain quarters. Fred is easily recognized by his famous sky-piece—that frog hat, but that doesn't signify that he is green and takes to water every chance that he gets.

CHARLES FRANCIS GOLDTHWAIT, *Σ Ξ, Chemist*.

Charles began mingling with the élite of Cummington April 23, 1886, but has since moved to Dalton, Mass., the town famous for producing paper and Warren. Charlie prepared at Athol High one year, but thought he was not becoming educated fast enough and finished out at Dalton High. Charlie came to Tech resolved to become a B.S. In his sophomore year he began to translate Van't Hoff's work on physical chemistry, and explained many things to the dozing Chems. that Van't Hoff didn't understand himself, and so became dubbed "Van't Hoff, Junior." Van't, Jr., was a great walker, and on Mountain Day always plodded off to some distant country metropolis. He once started to walk to Boston with Steere and Searle, but resigned the job at South Framingham. Van't was once much interested in metallurgy, and once gave us an hour description of a blast furnace at Cheshire, the home of the grinning cat, which turns out a ton of slag a day. Charlie has been a member of the Worcester Chemical Club for three years, being secretary for two years, and is always on hand to help dispose of the cheese and beer (birch) handed out at its meetings.



Arthur Greenwood



Frank Edgar Hawke



Henry H. Hay



Ernest E. Holbrook

ARTHUR GREENWOOD, Φ Γ χ ; Σ Ξ , *Mechanic*.

Twenty-one years ago Dr. Greenwood passed out Peruna to the inhabitants of the hamlet of Templeton. Thus was Spud's advent heralded to the world at large. His sanctimonious location, a minister on one side and a church on the other, led Spud early in life to form the acquaintance of the church deacons. We have been informed that the town constable used to have him on his daily calling list. The continual necessity of escaping the calls of these two sets of dignitaries explains Spud's retiring disposition. Four years at Gardner High with a P. G. course thrown in served to tone Spud down to the finished product which entered Tech with us in the fall of 1905. During his stay with us he has been very orderly, his worst offenses being his service for several terms as Secretary of the class, a perpetual dunning us for our class dues, and the selection of Earle Mann as a bosom friend and colleague. His barnyard symphonies with "Smicky" have served partially to break the monotony of crane design, and have brought us back to the old farm. Good luck to you, Spud, and may you have the same success in dunning others and collecting your dues as you have had while at Tech.

FRANK EDGAR HAWKES, Θ Λ , *Chemist*.

Extended a glad hand to the entire population back in '86, in the busy metropolis of South Framingham. Frank was well known as the village cut-up, and even to this day his wild pranks are recounted at the four-corners grocery store. Framingham's best boarded a freight one day in September, 1905, and came to Tech. He picked the chemistry course, but early showed decided artistic ability as a black and white artist by tinting Jonesy's face with MnO_2 . By judicious manipulation of the friendly reagent bottles Hawkesy was enabled to obtain 125 per cent. yields in the Organic Lab. An improvement upon the usual methods employed in physical chemistry experiments enabled him to obtain a standing of 98 per cent. In his senior year "Crazy" did a great deal of original investigation at both Bowler Bros.' and "Mother Day's" W. P. I. cotillions. Hawkes is going with the Dupont Powder Company.

HENRY HOMER HAY, Φ Γ χ , *Civil*.

Heine hails from Portland, Me., where he was born Feb. 27, 1887. Then he smiled a half tearful grin at the stork, as said biped fluttered away, "I don't care, you didn't have any right to drop me into this cold, unfeeling world." He has been very much an abused youngster, but though he complains betimes that his rights and prerogatives are not religiously regarded, he knows that "sob, and you sob solitary," so he generally and genially smiles. He thought he couldn't stand too big a dose of Tech all at once, so he deserted the "Journal" and the Mandolin Club, to bite off the end of some practical experience that would have to be swallowed sometime, he argued. After fooling about for a while on a residency of the C. M. & St. P., he returned to Tech and was received open-armed by 1909, always kind to wandering waifs like Heine.

ERNEST EDWARD HOLBROOK, *Mechanic*.

Jocko (although he says he doesn't like that pseudonym) started kicking on the fifth day of March, 1887, and up to the present time has kept up the good work. In his official capacity he has been instrumental in saving his hard-worked compatriots more labor than all of the rest combined. He was withal a model youth, chiefly through the untiring and dutiful efforts of Vernon King. That summer spent in Providence will always remain a notable one, and what Jocko didn't learn about the physical properties of hammocks and clothes-lines wasn't worth taking account of. His home is in the metropolis of New Hampshire, West Swanzey, and he prepped at the Keene High School. There has been no forecast of his future existence so far.



Jerome W. Howe



Roger B. Hubbell.



Wm. J. Hunt



Harvey C. Irving.

JEROME WILLARD HOWE, \perp T, *Civil*.

Jerry has led a busy life in this burg of Worcester since he brightened the landscape in October, 1886. Having made himself famous at the English High School, he came to Tech to work for the general good of the Class of 1909. He is distinctly a Tech man; as a student he ranks with the best, and as a worker for the class and the school in general, he has no equal. He is the Editor-in-chief of the "Journal," and Manager of the best track team that Tech has had in many a year. He has served in the capacity of Class President and Class Secretary. During the junior and senior years his efforts in behalf of the Aftermath have been untiring, and as Editor-in-chief of this work, he has made it what it is. Jerry has utilized his summer months accumulating engineering experience, and it is rumored that, having passed civil service examinations with good standing, he is thinking of going to the Philippines on government work.

ROGER BAYLES HUBBELL, *Mechanic*.

Roger, alias Deak, but commonly Doc, was born at a very young and innocent age at Bristol, Conn., on or about Dec. 3d, 1886. After six years of Connecticut existence he moved to Saranac Lake, N. Y., and graduating from the High School cast his lot with us. Doc likes the trips to Boston on account of Charlie's "atmosphere" with its "forbidden fruit," although Providence holds forth no mean charms. He is quite a lion among ladies; in fact it is intimated upon good authority that one of the fair damsels tried to commit suicide after his second call. Roger always has a sunny disposition, and that helps some.

WILLIAM HENRY HUNT, *Civil*.

Do you sight that vertical prolongation of non-adipose tissue? That's Mike Hunt. And he's a very proper gentleman; but—when he crowns his brow with that shapeless flap-jack with its dingy crimson and grey livery, he is food for thought. Nothing has ever worried Bill since he came to light in Dorchester, Mass., on the 25th of May, 1885. Perhaps they breed his type of nonchalance at the McKinley Manual Training School of Washington, D. C., whence he graduated just prior to entering Tech. He rose to eminence at that institution as First Lieutenant of Cadets, and we picture Mike inspiring life into his drill squad. Whether it was his figure that got him the job, or whether he owes his erect perpendicularity and dignified (?) mien to this early war-like training—our *a priori* and *a posteriori* got tangled up in English argumentation. Perhaps Hunt will engage in hydraulic engineering practice when he graduates.

How's the show this week, Bill?

HARVEY COBDEN IRVING, ϕ I' \perp , *Mechanic*.

Twenty-one years ago, Bridgeport, in blissful ignorance, allowed this specimen to crop forth, little knowing what the future would develop. His first articulate wail was a very peremptory demand for beer and ice-cream. This being denied, "Cobb" was pacified with an unabridged copy of Webster's dictionary, from which he culled only the larger pieces. Anyone who has attended any function at which "Cobb" favored the crowd with a few well-chosen "linguistic contortions" will not doubt that his parents made a fatal mistake in not allowing him his first choice of diet. "Harve" is a firm believer in the motto, "An indirect answer turneth away much curiosity." As class President during the first term of the junior year, he successfully opened and adjourned the meetings; as a banjo artist, he proved both ornamental and melodious at the spasmodic performances of the Tech musical clubs. Those feeling themselves hard hit by any of the alleged witticisms of this book can institute proceedings against him as one of its editors.



George H. Jenkins.



Frank W. Jones



Wilfred F. Jones



Elwin H. Kidder

GEORGE HARDING JENKINS, *Electric*.

Jenks jammed his big toe in his mouth for the first time on October 25, 1885, at Barre, Mass. A search of the archives reveals nothing of his life between the first move and his appearance at Tech. He must have existed, however, as reports from our department of autobiography state that the initials G. H. J. can be seen on some of the school furniture at Barre, and deductions on the amount of fading seems to cover the intervening years quite satisfactorily. When George struck Tech, he was quite taken aback with its extreme audibleness, and didn't appear on the horizon until 1907, when he proved himself a winner on that track team. Jelenkins knows a number of the ins and outs of Tech, even though he does not show it promiscuously.

FRANK WOODBURY JONES, *Chemist*.

Jonesy warbled his first note in Mahone Bay, Nova Scotia, June 9, 1886. Frank's early education was received in the Mahone Bay schools. In 1902 "Mozart" packed his dunage and steered for Worcester. He completed his high school education at the English High with the Class of 1904. He decided that B.S. appended to his name would look good, so he hiked for Boynton Hill. In his sophomore year he won his numerals by taking a place in the cross-countries. The dusk had fallen when "Mozart's" trilbies were heard pattering in the distance, but he came in within the time limit, so his name went down in history. "Doc" spent his summers on the road selling pictures to the farmers in Yankeedom. In that way he learned how to argue, and his proficiency in this line always was a source of wonder to Dr. Calhane. Jones was the leading man in a play his senior year, and his only lament was that Hawkes wasn't the villain.

WILFRED FULLER JONES, *θ X, Mechanic*.

Here, gentle reader, we have Bill Jones, who first made Ludlow famous by his nativity in the year 1887, on the twentieth day of the ninth month. His doings of his earlier life are not well known, but we suppose that he must have grown, as he landed at Tech full size. He received his education at the Ludlow High School, graduating with 1905. Bill first came into prominence at Tech by his participation in the spasmodic entertainments of the Glee Club, during our freshman and sophomore years. Bill's a quiet chap, one who does what is expected of him, and is a good fellow to know.

ELWIN HERBERT KIDDER, *Civil*.

Kidder is still several notes below Tetrizzini, but with training he might become a singer of note. Elwin was born in South Wardsboro, Vt., April 27, 1886; but his high school education was obtained in Brattleboro; his baseball career began and ended in Brattleboro; his *affaires du coeur* in Westboro; his pickle farming in Westboro; and his labors latterly in Worcester. Now he wants to hie him to the wild and woolly West. The *wanderlust* has got a strangle hold on him, evidently.

Kidder will take care of himself among men, for his sparring abilities are unquestioned, except by Burlin. But we fear for Elwin, nevertheless. He is an attractive, sociable chap, and we are afraid that his choir singing may have its hidden dangers.



Vernors C. King



John Walter Knox



Clyde E. Learned.



Charles A. Lewis

VERNON CURTIS KING, *Mechanic*.

V. C. first commenced to coo and “ah-rah” on the 28th day of January, 1887, in the metropolis of North Easton, where he still lives, and where he graduated from High School with the Class of 1905. During the summer of 1907 he was Jocko’s mentor and spiritual adviser during the memorable time spent in Providence. Throughout his course he has been very prominent in the work of the Student Christian Association of the Institute. V. C. always has an opinion on tap and plenty of it, but when words fail Ralph Whitmore’s farm is always a ready subject of conversation. Vernon was one of the leading lights in the formation of the W. P. I. Band, of which he was the leader. In mechanical subjects he had many novel ideas brought out, especially during the junior summer practice, when his method of marking his strikers and his ideas concerning the operation of the planer caused more or less wide comment.

JOHN WALTER KNOX, *Civil*.

Pete entered into a useful career March 22d, 1885, in Springfield, Mass. He prepped at the Technical High School of that berg, and came to Tech in 1904. It is recorded that back in his happy high school days he rowed with the school crew, but unfortunately the only boat the Institute seems to have any claim upon is the scow at Chaffins pond.

Knox is the soul of optimism and honor. He is outspoken to a fault; but while Boots is blunt in wrong seasons (which virtue has caused some friction with Punk and Reddy, we remember), Pete is diplomatic, and his effusions hurt nobody, not even himself. He entered in upon ’09 by a back door—namely, the Chaffins summer camp, but none could have been more welcome than he. Pete smokes too much, and wears his coiffure too long—otherwise is O. K.

CLYDE EMERSON LEARNED, *Civil*.

Was born Dec. 24, 1885. He patronized the Worcester educational institutions, and was let loose from the Worcester South High in time to allow him to amble up to Conie’s first graphic algebra lecture with the rest of us. He was called “Boots”—for why? We weren’t guilty of tagging him with that appellation. He was naturally “Boots.” He attempted to carry on his high school activities, where he made a hit on the crew, and the track team; but we didn’t have a crew, so Boots bent all his energies into putting the shot, and with this implement has won his “W,” and served his school honorably. His most remarkable adaptability was not discovered until late in his school career. We gave him the office of Class Treasurer, and he proved himself able to squeeze money out of some dreadfully dry lemons, so we got wise and made him perennial Treasurer. “Boots” makes a lot of noise, but he is quite harmless.

CHARLES A. LEWIS, *S. A. E., Chemist*.

Was born at the age of zero years or thereabouts, on the 25th of April, 1885, in Jamestown, N. Y., and shortly afterwards he cracked his first joke. We are inclined to think that the joke was on Charlie when his fond and doting parents dispatched him to the Institute to mix things up in the Chem. Lab. If so, he has been game enough to spend the happiest days of his life assimilating organic and physical chemistry. But chemistry, be it understood, is Charlie’s avocation; his real vocation and chief business in life is the coining of jokes and puns. At our sophomore banquet he speculated on “Our Future;” at the Half-way Thru he wagged his tongue in a manner that was a fair imitation of a perpetual motion machine. This wasn’t Charlie’s fault. “Some have greatness thrust upon them.” Lewis was induced, after much coaxing, to turn his wit to use—harness it down to the task of toastmastering. Lewis is not lazy; he is merely good-natured. We even entertain hopes for his future.



Harry R. Lewis Jr.



C. G. Lidstrom.



Arthur E. Luce.



Charles E. Mann.

HARRY RICHARD LEWIS, JR., $\Sigma A E$, *Chemist*.

Greeted his parents with a beaming smile on Jan. 22, 1888, while H. R., Sr., was doling out cigars to his Jamestown, N. Y., friends. Harry attended the Jamestown High School, and used to make a few one-handed stops from the second-base position. He entered Tech in the first year of the reign of "Gimpie the First." When he came back in the fall for his sophomore year, he decided it was to be chemistry for his, and entered that illustrious crowd. He pursued his course diligently and expects to take a sheep-skin with the crowd of those who are left.

CHARLES GUSTAVUS LIDSTROM, *Civil*.

Has made Worcester the scene of his activities since his first puerile vocalizations, which were vented on the 26th of November, 1881. He prepped for Tech at the Worcester South High School, from which he graduated in 1905. We distinctly remember that Charlie once harbored athletic ambitions, for it is recorded in the annals of the class that he helped trim the freshies in the great football game in our sophomore year. Lid. is not a large specimen, but he is pugnacious, which accounts for the fact that he represented his class on the team that pulled the freshmen off their feet in the tug-of-war contest of that same year. The rare courage he has often displayed when under fire from "Punk's" gatlings has endeared him to his brother Civils. Charlie is one of the Philippine recruits, for whom the "Journal" staff is busily preparing epitaphs. We wonder if he contemplates transporting and transplanting his model farm.

ARTHUR EDWARD LUCE, $K \Xi A$, *Mechanic*.

Who is that over there stoking the boilers and dressed fit to attend the king's ball? Amidst a growth of thick facial adornment, one discovers that it is none other than Arthur Luce, who was born, bred and educated in this old town of Worcester. Arthur first bit the dust on the 12th day of September, 1886. History makes little note of his early life, but the archives show that he was graduated from the English High School in the Class of 1904, and afterwards spent a year in graduate study there. He was brought into the lime-light during our freshman shop by the many and frequent appeals on the part of the tool-room boy to take a wrench and tighten him up. When he throughout his busy life this wide, wide world doth roam, the fashion plates will come to life and point the moral of this poem.

EARLE ELMER MANN, *Mechanic*.

Here, gentle reader, we have a representative of the master minds turned out annually by the Worcester Polytechnic Institute. Earle graced the town of South Framingham with his enlightening presence on September 11, 1886. Moving to Worcester to live, he graduated from the English High School and drifted into Tech. He was a marked man during freshman shop, as the old war cry of "Oh, Earle" used to testify, and has been a famous man in more ways than one throughout the course. One of the profs is said to have remarked that Earle was the best man in Electric Lab. At any rate he always seemed to pull an A, but it is claimed by the wiseacres that he always took pains to describe an ohm before proceeding to business. Earle always took pains to find out his own and everybody else's marks. He did very efficient work as Sergeant-at-Arms during our junior year.



Arthur C. Merrill.



Patrick J. Murphy



James A. O'Neil.



G. Norman Paine

ARTHUR CLEMENT MERRILL, $K \Xi A$, *Mechanic*.

China first held forth in the old town of Salem, Mass., on October 29, 1885. He graduated from the Salem High School with the Class of 1903, and entered M. I. T. with the Class of 1908. The wiles of the big city were too much for our embryo engineer, and he joined us at the beginning of our junior year, a welcome addition truly. China was a member of the football squad during his two years at the Institute, and was a supporting member of the Mechanics line in the game with the Electrics. During his term with us he has been very successful in throwing the bluff that works. He never lost any sleep on account of worrying, nor weight on account of studying. His smiling countenance and rotund form testify to these things.

PATRICK J. MURPHY, *Electric*.

Murf was one of the exclusive few who drove the snakes out of the Emerald Isle. He started in February 17, 1884, at Berehaven, Ireland, but gave it up to prepare for Tech. He prepared at Holy Cross, but is not to be blamed for that, as he was young and unsophisticated when he struck this large, beautiful, smiling, extremely dry town. Owing to his great love of theory, he attained the position of delegate to France. Later he was made Chinese envoy by Secretary of the Anterior O'Neil. Murf ought to be able to expound a few points in regard to a technical education when he strikes the sod again.

JAMES A. O'NEIL, $K \Xi A$, *Electric*.

Jimmie flopped his way onto this lump of mud on October the 8th, 1885, at Norwich, Conn. When asked if he cared for athletics at the Worcester High School, where he prepared, he declined with thanks, preferring to take his straight and sort of save his strength for the senior Electric football match with the Mechanics. James has always been much of a mystery. You might think him a trifle under the weather, but he always came up smiling. Jim was always ready to do somebody a good turn. James was always around picking up stray bits of information on vectors and alternating current theory, as those sciences were his especial hobby. He is going to quit the fake artists and go into the legitimate in the railway line.

GEORGE NORMAN PALSER, ΣA , *Civil*.

G. Norman is the veteran of the class. He was born June 24, 1877, at Belleville, N. J. For ten years he practiced as a photographer. When by some inexplicable cogency his thoughts were turned toward the "Free Institute," he spent a year at Newark Academy, and entered Tech with the Class of 1909. Palser has distinguished himself by his indefatigable industry. It is his common custom to assimilate thirty-nine engineering treatises, monographs and brochures in preparation for each abstract. He has served the class as a member of the committee on class pictures, and has otherwise proved himself a valuable asset photographically. As chief faetotem of the Civil Engineering Society, he gave freely of his maturer counsel to the younger members, and of his industry to the furtherance of the society's work and activity.



Lettius A. Parkhurst



Ralph B. Perry



Robert Thos. Pollock



C. Eugene Putnam

LEBBEUS ANDREW PARKHURST, *Electric*.

Leb, old stocking, came to life on April 6th, 1886, and grew up to the age of fusturity without much annoyance or entanglements. He made ready for Tech at the dear old Brookfield High School, and came to Tech still without entanglements. His life at Tech has been almost serene, the exception being because of his over-indulgence into the theory of gas engines. It seems that the Q. E. D. that may be placed after his existence here will push him into the conservative yet successful class.

RALPH EDGAR PERRY, *Electric*.

Ralph Edgar Perry happened somewhere out West, but later came to Brattleboro, Vt., from which place he entered Tech in '05. Soon after he arrived on Tech Hill, he became "Bush" to the crowd and as such he has remained through the four years of existence here. Bush has filled a number of positions here on the Hill, among them being that of Assistant Manager of the Varsity baseball team in the season of '08, and Business Manager of the Aftermath. In both these positions he distinguished himself: in the former by having his nasal apparatus unhinged during practice, which required medical treatment after he took it to a game at Cambridge, and as an Aftermath hustler, Bush learned the little song, "I want a dollar and a quarter," to good effect. He's going to Cleveland this summer to make electric lamps for a living, accompanied by the good wishes of the crowd.

ROBERT THOMAS POLLOCK, *θ N*, *Electric*.

Robert T. Pollock, otherwise just "Bob," arrived on Tech Hill just after the junior midyears—a recruit from M. I. T., attracted to Worcester by our excellent courses in mechanics. Society on the Hill seemed rather quiet to him, so he sprung that "Frictionless Adiabatics" celebration on our unsuspecting numbers. The name was too much for many, but Bob's adiabatics were reported as a vast improvement over the usual sort. His avocation is the design of electric cars, and the rest of the time he puts in turning a mixture of sawdust and molasses into carbon specialties over in the foundry coke oven. As captain of the division football team last fall, he brought the Electrics almost to a victory down on the Oval. Bob is also some in the speech-making line, but says that he is unlucky, because when he has a good one all fixed up he always comes at the end of the list, and has to cut it short to keep the audience with him.

CHARLES EUGENE PUTNAM, *Electric*.

The town of the largest chair in the world boasts on the Q. T. of being the birth-place of Put, on March 7, 1887. It is plain that that is where he gained his ability of being the seat of good humor. He made his preparation there and showed great development in athletics on the side lines. When Ep reached Tech, his great enthusiasm for athletics was still further developed in the pleasant task of a bill collector. For his undying devotion to this last he was elected Vice-president of the class in 1908. He had some slight entanglement with the musical club here at Tech, where he helped to give balm to the savage beast. It was in the fall of '08 that Put showed the effect of his early training in athletics, for he helped the senior electrics keep the mechanics off Remon's nose. Put's only fear is that when he makes good, which we all know he will, people will call him Charlie.



John Allen Remon



Arthur Richardson



Francis W. Roys.

JOHN ALLEN REMON, $K \Xi A$; $\Sigma \Xi$, *Electric*.

After the fuss had all passed by in regard to the hanging of the witches up in Salem, John made his appearance November 23, 1885. Now Jack was right there with the berries from the start, and had a few ideas how to run things himself. After he got onto the ropes at the Salem High School, things became Remonized in good shape: baseball, football, basketball, dances and the school paper. He picked out M. I. T. as his stepping-stone to success, but changed his mind after a couple of years there, and came to Worcester. In Worcester he seemed to fade out of sight, except for an occasional scrap with one of the profs until he graduated, when he beamed upon his contemporaries as a member of Sigma Xi. Johnny proved quite a benefactor for the babies' island hospital in Salem Harbor; inversely the hospital proved quite a benefactor for John. He gained a very intimate knowledge of the trials and tribulations of extreme youthfulness, which will come in handy some night. He also became quite an expert on financial matters and ocean-going motor boats. His matrimonial affairs are too serious to talk about.

AMMI CARLETON RICHARDSON, θX , *Mechanic*.

Peanut got his first strangle hold on this mundane sphere on or about April 16, 1885, in the borough of Haverhill. He has kept on holding ever since, and well he might, for Peanut's attraction by this mother earth to its surface only amounts to about 112 pounds by the Fairbanks. His career through Tech up to his junior year was without incident, but then it was that Mr. Fish found it necessary to consult either him or Freddie Ellis on the subject of practical mechanics, much to the edification of the class and the discomfort of the aforesaid gentlemen. Peanut is an all-round mechanic, as every one will testify, and when the time is up he will get his B.S. along with the rest of the all-star aggregation.

FRANCIS WILLIAM ROYS, $K \Xi A$; $\Sigma \Xi$, *Mechanic*.

Frank first chuckled a chuckle and sighed a heave on the good old island of Nantucket on the 16th day of August, 1886. History next places him in Uxbridge, down the valley. He was one of the delegation who dabbled in arts and sciences at the Worcester Academy, and with this fitting preparation was on deck when the screw machine began to work. Being a good mechanic Frank has had no trouble with the aforesaid mechanism, and is hence one of the shining lights. He therefore considers it his privilege to laugh on any and all occasions. During his term at Tech he has held the office of Vice-president of his class several times, and is a member of the board on this publication.



Jos. K. Schofield



J. Herbert Searle



Thomas H. Sheahan



Harold W. Smith

JOSEPH KING SCHOFIELD, *A T O, Mechanic.*

Jake first began to whistle and warble "Asleep on the Deep" and other kindred tunes in the town of Rockville, denoted on the map of the Nutmeg State by a small dot, on August 5, 1885. He received his preparatory education in the Rockville and Fitchburg High Schools, graduating in a blaze of glory from the latter institution in 1904. Jake's whistling propensities became acutely apparent during freshman shop when a rail ride was promised, but Earle Mann decided to cross his name off the list of participants and the affair was called off. Jake has been prominent in choral work during his course, being a member of the Glee Club and singing in the Festival Choruses. He can always be recognized by his well-renowned spats, and his far-away look betokens something else besides interest in the affair at hand. If one didn't know J. K. one would take him for an apostle of Morpheus.

JAMES HERBERT SEARLE, *Chemist.*

Herbie began gaping for wind November 16, 1884, in the busy whirl of Westfield, Mass. He learned his A B C's in the Westfield schools and graduated from the High School with the Class of 1903. He showed an inquisitive mind and early learned that oil would flow out of the open end of a pipe if attached to a barrel of kerosene on the floor above. One bright day James imparted the astounding news to his father that a brilliant future lay before him and he thought that he would shine particularly bright as a scientist. He entered Tech with the Class of 1909 and specialized in chemistry. Herbert has always been a favorite with the ladies and has never let his work interfere with his duties as a Prince Charming. In his junior year he became devoted to the art of debating, and even tried his arguments on one of the profs until invited to step out into the hall and cool off. Jimmy should have been born in Missouri, as he always wants to be shown.

THOMAS HENRY SHEAHAN, *Mechanic.*

Tommy first opened the eyes of the city of Bridgeport, Conn., on the 27th day of February, 1880. He received his preparatory education in the High School and the University School of that city. The pursuit of learning was not for Tommy just then, so he went out and became a journeyman machinist, a fact that saved him eight hours a week later on. He has had a raft of practical experience banging around the country, and knows what he is talking about. About 1905 he thought that a few new ideas would spice matters up a bit, so he, together with Abe, jacked the job and hiked for Tech. His career through the Institution on the Hill has been a smooth one with the exception of his junior year, when Punk's idea of the English language grated upon Tommy's mind. He is a worker all of the time, and one whose grit and energy will yet get him to the front.

HAROLD WILDER SMITH, *S A E, Mechanic.*

When the sounds of a well-regulated barn-yard smote the ears of a plodding tiller of the soil in the town of Spencer, on the 26th day of November, 1883, the fact was revealed that "Smigie" had arrived. Moving to Leicester to live, he graduated from Leicester Academy, that prep. school of the other immortals, with the Class of 1902. Between 1902 and 1905 history fails to record the doings of our erstwhile engineer, but when the roll was called on that memorable day our hero was on deck smiling. During his course at Tech he has always been prominent in basketball, making the Varsity team in his junior and senior years. Having an affinity for gas engines he inveigled Twau into that branch of thesis. Smigie has lots of original ideas, his latest one being to put green goggles on his old Pegasus and feed him excelsior under the guise of succulent verdure. Belongs to that happy class of individuals who like work at a distance.



Clifton G. Spaulding



Howard J. Spaulding



Ralph E. Spaulding



Percy F. Squier.

CLIFTON GOULD SPAULDING, ϕ Γ \perp , *Civil*.

C. G. was born in Portland, Me., Nov. 4, 1886. After graduating from the Portland High, he tossed the coin for Dartmouth; but it fell for Tech, so to Tech he came.

His is a vigorous figure, that attends assiduously to its own business, and is not fretted by every little thing. Not even fly-paper substituted for rugs causes him any qualms. And C. G. is not lacking in words—not slippery phrases nor Latin polysyllables, but crude Yankee root-words. And from him, too, come the wittiest of fables, somewhat after the manner of LaFontaine.

Under his capable business management, the “Journal” throve splendidly. Then, too, he made us an efficient President in our junior year. But for the most, he has attended assiduously to his studies, his fussing and telephone calls, and his tennis. It was scandalous—the chicken-pox—but we will forgive him that.

Truly, thou perambulating Can of Condensed Activity, a whiff of thee is good for mortals; go thy way into the world and work there as it is given thee to work.

HOWARD TURNER SPAULDING, θ Λ , *Electric*.

Spaul started to make his hit in life at Shirley, Mass., November 14, 1888. He kicked up the usual amount of fuss until he reached preparatory school at Groton, Mass., when he commenced to advocate the simple life. At Groton he made quite a hit in baseball, but neglected to keep this up at Tech. The reason for this was that his studies were interfering greatly with his social activities, and left no time for baseball. Notwithstanding Howard’s social inclinations and his being deprived of baseball at Tech, he has been rather unfortunate in that he never knew what it was to get a flunk. This may hinder him in his after life somewhat, and tend to keep him down, but we wish him luck.

RALPH EDGAR SPAULDING, Σ Ξ , *Civil*.

R. E. was presumably christened Ralph with the superfluity Edgar, genus Spaulding. This was in 1884, on October 12th. It is well to emphasize this matter of terminology, for the youth in question has rarely had to own up to any of his names during his sojourn at Tech. R. E.—Rising Engineer! Modest and civil always—a most admirable “civil.” Suffield, Conn., was his birthplace, the Technical High School of Springfield his fitting school, and one year sufficed to give him the necessary preparation. He has indulged in electrical engineering and in photography, but concrete is his hobby. He rode it one summer to the tune of a concrete mill building designed and erected by R. E. He has rendered valuable work for his class on the Aftermath. It appears to make no difference what plow R. E. puts his hand to, he drives it through. And if there is a man in the class who can hold a candle to Spanlding for original work and research, we have failed to locate him.

PERCY FRANK SQUIER, *Electric*.

Percy first qualified as one of the Hall Room boys at Worcester on November 6, 1887. He became village cut-up at eighteen, after he had oozed his way through the Worcester English High School. When Percy struck Tech, it was with certain misgivings as to the wisdom of the move he was about to make. Upon hearing of the great popularity of Tech men with the girlies, Perce saw a grand opening, however. All through Percy’s career here at Tech, “every day’s been ladies’ day with him,” and Tech has always had a good exponent in the parlors and dance halls hereabouts. Percy ought to make good at Pittsburg, and we wish him luck.



R. A. Squire



Charles C. Steere



Leslie E. Dwyer



Ray H. Taber.

RAYMOND SAMUEL SQUIRE, $\Sigma A E$, *Mechanic*.

A few books flying galley west, a chair knocked off its pins, a touchy part of the pedestrians tread upon, and from out of the melee the ever-ready "Pardon me" reveals the fact that Twau is with us again in person. He first began brushing his cowlick on the 1st day of July, 1887, in the town of Greenfield, but later took up his sequestered abode in the metropolis of Westfield, immortalized as the home of Jimmie Searle, and graduated from the High School in the Class of 1905. Twau has always pretended to be more or less of a shark and he tries his darnedest to keep Smigie on the job, with his customary exhortation: "Come on, Smithy, why don't you take a little interest in your work?" Harold's reply is usually lost to history. We trust that Raymond will have as good luck in the future as he has had in the past.

CHARLES CHILDS STEERE, $\Sigma \Xi$, *Chemist*.

Had the nerve to stare his father in the face on —— the exact date has escaped his own mind. Charlie's first achievement was the invention of a caramel wrapping machine and since that time he has been taking raps at everybody. Charlie should have been trained for a gladiator, as he has shown marked propensity for personal combat. He prepped at Central High in Springfield, and when he came to Tech he decided to become a mixer of the elements. He had many interesting debates with Dr. Jennings in the Organic Laboratory, and proved that if he had an order in for a piece of apparatus, it belonged to him. In his junior year Charlie became renowned as a locksmith. If anyone forgot his keys, he came forward with his patent key guaranteed to open any desk or door in the Salisbury Laboratory. Charlie always takes his time, but he always gets there.

LESLIE ELMER SWIFT, *Civil*.

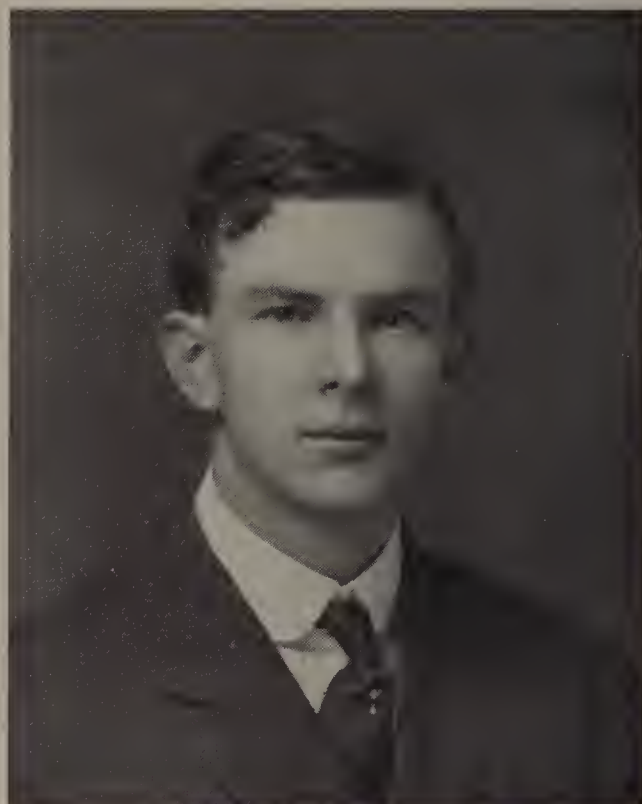
Leslie was born in Brooklyn, N. Y., Jan. 5, 1886. At Arms Academy, Shelburne Falls, Mass., he commenced in earnest the work of learning, and he has kept it up unintermittently ever since. All Swift needed to help him along in his career was the Class of 1909. He made the mistake of trying to beat us out and make the long, toilsome journey unaided; but inevitably he was meant for one of us. He is not a voluble talker, so we are not wise to the precise nature of his plans; but as he has spent several summers in engineering employment, we judge he intends to remain "civil."

RAY HOWARD TABER, $K \Xi A$; $\Sigma \Xi$, *Electric*.

Pete started operations on August 4th, 1887, at New Bedford, Mass. When he reached five years, he had gone through five books on plain and solid geometry, and an advanced college algebra. By the time he had reached ten years he was able to discuss the license question, woman's suffrage, and the immorality of speech. Ray didn't gain much prominence in Tech until the senior year, when he jumped into the limelight as a football hero with the senior electrics. Towards the close of the senior year a bid to Sigma Xi set the wise ones to thinking, and the result was he became a marked man. Pete was one of those who helped to make our commencement week a grand success.



Ralph E. Torrey



Howard B. Warren



Carl W. Wheelock



Ralph D. Whitmore

RALPH EDWARD TOUCEY, Φ I Δ , *Mechanic*.

After carefully shaking the sacred "wooden nutmegs" of Connecticut, the sooth-sayers of Bridgeport set Memorial Day, 1885, for Ralph's début, but, as usual, "Touse" put it off till the last minute, and kept the crowd waiting till July 1, of the same year. "Touse" spent his adolescent days in his home town, where he soon became a close second to Orpheus. So well is "Touse" known in musical circles that it is alleged that the "Glow Worm" was dedicated to his rubicund proboscis. Along with other accomplishments, "Touse" is no slouch as a composer, as it has been hinted that he furnished the paper on which was written the "Faculty Song" for Tech Night at Poli's, the song that made Zelotes jealous. "Touse" served very efficiently under Dana Pratt in Tech's minstrel aggregation, as Business Manager of the "Journal," as Chairman of the Junior Prom Committee, and as Business Manager of this Aftermath. Along with the rest of the Aftermath Board, we will now consign him to a well-earned rest.

HOWARD BAILLIE WARREN, *Chemist*.

Born Dalton May 17, 1886. He still lives in Dalton when not in Lynn, where we understand he has large interests. H. B. made life miserable for the teachers of Dalton High for four years, and they were happy when he passed his exams. and started for Tech. His first year was spent in quiet, peaceful study, and it was not until his second year that he began to achieve fame. In qualitative analyses he foreshadowed the work of Ramsay in transmuting metals, always being able to find lead in any solution whatever. Physics has always borne a special charm for Howard and he never tired (dis-)cussing Dr. Duff's book. He has been a member of the Worcester Chemical Club three years, but usually thought the meeting would benefit by his absence.

CARL WILLIAMS WHEELOCK, Φ I Δ , *Civil*.

Known to his intimates as Peel, is jolly well liked all round. He has great capacities, especially for managerial activities and boils. It is safe to predict that Carl is either nursing one monstrosity, or is just finished with his last one, or is about to pay attention to the next.

He made his first début May 3rd, 1887, in Southbridge, Mass., where, in common with all youngsters, he was an exceptionally bright child! Surviving a turmoil of excitement, social, athletic and otherwise, at the Southbridge High, he entered upon the unromantic existence of a Tech man.

But Carl would not down; he blossomed out into prominence, and was made Captain of the class basketball team, and Manager of the class baseball team, which did some altitudinous work back in our freshman year. Then he played football on the Varsity, until the management of the Varsity basketball team claimed him. Carl does not talk through his hat, and is in every way a hopeful case.

RALPH DELANO WHITMORE, Δ T; Σ Ξ *Mechanic*.

Whit is one of the youngsters of the class. Born and educated in the vicinity of Sunderland, Mass., he has, nevertheless, shown many signs of intelligence. In his first two years at Tech he was modest and unassuming, but of late has blossomed out considerably, and rumor has it that his trips to Boston are not altogether in keeping with his title of Ex-president of the Tech Y. M. C. A. Besides the above office he held the position of Class President for the first half of our senior year. While Ralph has not an unbounded love for work, he can, nevertheless, be depended upon to carry through anything he may undertake, and his slow manner is no indication of a lack of gray matter. In spite of the fact that Whit finds it difficult to get around in the morning on schedule time, we confidently expect that he will be able to deliver the goods to whosoever is fortunate enough to secure his services.



John Woodcock.



Edward M Woodward Jr.

JOHN WOODCOCK, *Electric*.

John was born August 26, 1883, at Leicester, Mass., and prepared for Tech at the Worcester High. He was of a peculiar turn of mind, loved his books dearly, especially any theoretical mess. When it came to enjoying a theoretical lecture, Johnny was right on the spot—and fast asleep. He had great natural ability as an explainer, believing that any fool could spoil things, but it took a man to straighten them out. When he took wireless for his thesis, he little dreamed of its reward, for towards the end of the term he sat up in Boynton tower until 2 o'clock every morning catching the latest social gossip from Wellesley. This, of course, was thesis work.

EDWARD MILTON WOODWARD, JR., *Mechanic*.

Here, gentle reader, we have Edward Milton Woodward, Jr., the only and original gum-shoe man, born in the suburb of the metropolis called Brooklyn, on the 10th day of November, 1886. Like a model youth, he never speaks unless spoken to, and not then perhaps; never stays out late nights nor away from home, and always wears his rubbers. He is always picked out as a Worcesterite by that well-recognized symbol—a green bag, and to hide his modesty frequently wears a beard. This meek little lad entered Tech after graduating from the South High School in the Class of 1905. During his term at Tech he has taken an especial interest in power work with special reference to Davy's steam and gas engine courses. To predict the future of our modern Sphinx is too much for us; time alone will tell.

The Has-Wasser

A Classman came to Tech to grind,
And he ground;
But he never expected so worse to find
As he found.
“I’ll be ground so fine, O Dad,” wrote he,
In a melancholic note,
“That you’ll never find what’s left of me
With an ⁿth power microscope.
So, Dad, please take me home.”

“Be not so sad; brace up, my lad!”
So he braced.
And the yellow-back—“ ’twould be too bad
To waste
On a bunch of books this braced swag.
’Twill cover an orchestra seat,
And a pretty girl that can chew the rag;—
My joy-time looks complete
Without my home-sweet-home.”

He hit the exam on the shady flank,
Se he flunked;
And he couldn’t brace the savings-bank,
So he bunked
For the speck on the map from whence he sprung;—
And that’s the moving cause
Of the following page where the praise is sung
Of the Classman that used-to-was,
Ere the B. & M. took him home.

The Dear Departed

George Edward Acret
 Harold Lester Babcock
 Amos Clifton Bartlett
 Ralph Mayne Bragdon
 Arthur Everett Brigham (see Class '10)
 Reginald Delano Bryant
 Alexander Bronson Campbell, Jr.
 Richard Arthur Caswell
 Robert Barney Childs
 Arthur Loren Clapp
 • George Leopold Clift
 Francis Joseph Coffey
 Fred Ernest Coleburn
 Harold Cox
 Harry Francis Cunningham
 David Leslie Currier
 Leslie Wardner Cushman
 Ernest Lord Earle
 Simon Israel Edinberg
 Matthew Richard Fish
 Joseph Jacob Friedman
 Francis Leroy Gaines
 Ralph Augustus Garno
 James Gordon Goodell (see Class '10)
 John Joseph Gourlay
 Ernest Augustin Tillotson Hapgood
 Dudley Harmon
 Edmund Brook Haslop
 Arthur Dean Hatch
 Lewis Stanwood Hooper (see Class '10)
 Frederick Lawrence Hopkins
 Woodbury Kendall Howe
 Robert Howard Howes
 George Henry Johnson
 Charles Bonaventura Lawler Kelley
 Francis Park Kurtz
 Alexander Henry Laviolette
 Richard Baldwin Locke
 John William Lowe, Jr.
 Harry Thaddeus Lund
 John Michael Maloy, Jr.
 Harold Joseph Manning
 Frank Hoisington Martin
 Hubert Peter Theodore Matte (see
 Class '10)
 Joseph Walter McElroy
 Charles Norton Mixer
 Edward Hancock Moore (see Class '11)

Huber Lorenzo Morrison
 Earle Goodwin Moulton
 Albert Wallace Newhall
 Frank Alton Nickerson
 William Thomas O'Connell (see Class '10)
 Walter Alexis Olesen (see Class '10)
 Theodore Dwight Olmstead
 Charles Arnold Pellett (see Class '10)
 Edward Clarke Perry (see Class '11)
 George Luther Pierce, Jr.
 Norman Burdett Potter
 Raymond Bemis Potter
 Stephen Michael Poutier (see Class '10)
 Walker Flanders Prescott
 Walter Harris Ray, Jr.
 Howard Beebe Ross
 Jose Rovelo
 Barrett Beard Russell, Jr. (see Class '10)
 Rudolf Karl Schlaepfer
 Roland Scott Simonds
 Charles Brown Sisson
 James Albert Smith
 Myron Sibley Stevens
 Charles Cunningham Stimson
 Clarence Mortimer Stowe
 Myron Knight Sweet
 Clinton Bagg Taylor
 Henry Franklin Trout
 Otto Velorous Taft Urban
 John George Barreira Vianna
 Charles Bragdon Wagner
 Percy Brownell Walley
 Clifford Holmes Webber
 Chester Wirt White
 Austin Porter Whitney
 Artemas Orlando Wilkins
 Lyle Law Wilkins
 Nelson Wing (see Class '11)
 Walter Simeon Wrigley
 Frank Lamb Root (see Class '10)

ENTERED.

Sept. '04 Harold Francis Bidwell
 Sept. '04. Wallace Lester Flagg
 Sept. '05. Frank Farley Hutchins
 Sept. '04. Louis Angelo Jackson
 Sept. '05. Lewis Racoosin
 Sept. '06. Charles M. Struck

Hyomei

The showers of chalk were falling fast,
When through a Thermo class there passed,
A prof, who bore with smiles so nice
A smeller of a strange device—

Hyomei.

“Come, come, Class!” he wheezed, and said,
As several pieces hit his head,
“I write for Power, and can’t you see
My lettered pin—‘A.S.M.E.’”—

Hyomei.

“Up to the board,” the prof then said,
And off a problem reeled ahead;
And while we labored, he stood nigh,
And often breathed with many a sigh—

Hyomei.

Before our laboring was o’er,
From ceiling then unto the floor,
An odor reeked from “Hyar to Thyar;”
The Seniors wildly gasped for “ayr.”

Hyomei.

One by one they all filed out,
Leaving him without a doubt,
Still grasping with his smile so nice,
This smeller of a strange device—

Hyomei.

A black and white line drawing of two tennis players in the background of the title. They are wearing light-colored athletic wear and are in the middle of a tennis stroke. The title 'ATHLETICS' is written in large, bold, 3D block letters across the center of the page.

ATHLETICS

LEARY '10





Athletics

When the Class of 1909 came to the Institute it found athletics at a low ebb. Things were going on in a half-hearted, discouraging way, and we were not sensible of any appreciable improvement through the following three years. Unsatisfied hopes led to a mild but cynical scoffing. The whole school seemed to breathe in accord, "It's no use. We can't do anything in athletics here. What's the use in trying?" This was the status of the matter when we left at the end of our junior year.

A change was accomplished somehow, so that when we returned in the fall we found ourselves in a new atmosphere. There was hope in it and enthusiasm, and prospect of victory. We of the class, most of us, looked on but coldly perhaps. We were too thoroughly discouraged, having been here the longest. But some of our number were leading the renaissance, did we but know it. Burpee and Crowther, with Riley and Bell, were working side by side with the fresh blood given by the freshman class. We all felt that football was at last on a firm base, and the season proved, if not wholly victorious, at least more successful than had gone before. And what was best of all, the enthusiasm of the school was kept at a high pitch. Then Wheelock and his crowd of basketball men did their best to help along the cause during the winter months with a good series of basketball games.

The track team branched out into relay team work, and in the spring won both its intercollegiate meets. And the baseball men took unto themselves the task of completing an athletic year well begun, and added fresh laurels. And of the whole school no class is more pleased than 1909 to see the tide turn. May the moon stand still!



FOOTBALL.

Football

The season opened under the management of R. W. Burpee and captaincy of Dick Crowther. The outlook at the beginning of the season was very bright. The services of George Orr were secured to coach the team, and when such big men as Clough, Power, Blanchard and Gleason of the freshman class were seen on the field, it looked as if Tech was due to win a few games. The Class of 1909 was well represented throughout the season. In Dick Crowther the team had a hard, consistent worker and an excellent captain. Howdy Bell played his usual good game, interspersed with point-winning drop-kicks, and Riley played grittily at end.

The game with the Academy came first—for practice, of course; and for the first time in several years the Academy was beaten. The next game was with Rhode Island State College. In their school journal appeared an editorial suggesting that about forty points would be enough to run up on the Tech boys. Tech won, 4 to 0. In following games we were not so successful. The game with the Aggies went to the farmers. This game was the turning point in our fortunes, and we failed to recover. Holy Cross? Well, we met them as usual, and went down to defeat. But it was a hard and plucky struggle, and against tremendous odds.

We pass the word on to 1910 & Company, “Better luck next time!”

The scores for the season were:

		Tech
Worcester Academy	0	5
Trinity,	0	4
Rhode Island State College	0	4
Mass. Agricultural College	11	5
Springfield Training School	23	0
Rensselaer Polytechnic Institute	5	0
Holy Cross College	15	0



BASKETBALL TEAM.

Basketball

The basketball season of '08-'09 started with a very favorable outlook for a fast team, Lawley, Tech's star player for the past four years, being the only man lost by graduation. A strong schedule was arranged by Manager Wheelock with such teams as Dartmouth, Wesleyan and Maine, and in all the games, with one exception, Tech gave a creditable account of itself. "Cag" Pease proved himself to be a hard-working captain, and with the aid of Coach Leighton, an experienced professional player, developed good team work, which was especially noticeable during the middle of the season. 1909 was represented on the team by Smith, who played his usual hard blocking game. Fitzpatrick was Tech's leading scorer, and Fritz Hedberg, back for a post-graduate course, made good at another branch of athletics on the Hill.

As in former years, the team worked under a heavy handicap in having no suitable hall for practice, but this was partially overcome by the large squad and by the interest shown. The game with the University of Maine in Mechanics Hall on Feb. 23 was the most exciting of the season. With five minutes to play and four points behind, Tech responded to the "hika-kikas" and won out in the last five minutes by two points.

The makeup of the team for the past season was as follows:

Fitzpatrick,	l.f.	Wells,	sub-f.
Atherton,	r.f.	Kelly,	sub-f.
Capt. Pease,	c.	James,	sub-g.
Hedberg,	l.g.	Curley,	sub-g.
Smith,	r.g.		

Following is the schedule with the scores:

W. P. I.,	13	Wesleyan,	40
W. P. I.,	17	Dartmouth,	41
W. P. I.,	51	Fitchburg Y. M. C. A.,	16
W. P. I.,	15	Williston,	46
W. P. I.,	18	N. H. State,	19
W. P. I.,	17	Andover,	26
W. P. I.,	11	Cushing,	22
W. P. I.,	32	Lowell Textile,	22
W. P. I.,	27	Univ. of Maine,	25
W. P. I.,	11	Holy Cross,	29
W. P. I.,	19	R. I. State,	41
	<hr/> 260		<hr/> 358



RELAY TEAM.

Track Team

With a nucleus left over from last year's team to start with—and it comprised a small group of athletes of promise—we set about to make a stir in the athletic world, and we succeeded. Winter work in relay running was taken up again with energy, after having been off the boards for many years. Training in indoor running was kept up right through the winter. The Y. M. C. A. track, the Academy track, the High School training quarters, and the Armory—we had to dodge about somewhat, but we kept at it.

And on February 6th, we met the Aggies, with a team of four, at the Boston Athletic Association meet, and were beaten; but we showed good form in running that began to arouse comment. Then the next month we met Holy Cross in a relay race at the Armory. Here, too, we were unfortunate, but we certainly ran a superior race to that put up by the men of the purple. Then, later on, we raced Brown University, but they were a little—not much, but a little—too experienced for us.

If the winter work brought no victories, it paved the way very effectively for victories in the spring. It was a noble sight to see Kennedy, Halligan and Donath, three of our relay men, walk away from the rest of the track in the quarter at the dual meet with Union College, May 8th. Slocomb, also relay man—how he carried away the mile and the two-mile! It would be long to tell what deeds were done that day. We won, of course, $63\frac{1}{2}$ to $53\frac{1}{2}$.

Then we went to Troy and wiped up the field with Rensselaer, scoring $74\frac{1}{2}$ points to their $51\frac{1}{2}$. Holy Cross we were to have met, and Tufts—in a triple meet. But neither college had a ghost of a show against what the newspapers called our remarkably well-balanced team. So both got cold feet, and decided to slink away, their tails between their legs.

Charles E. Barney, '10, our lofty pole vaulter, served the team as Captain. J. W. Howe, '09, had the management, in which he was ably assisted by D. H. Reamy, '10. Paul S. Kennedy, '10, has been elected Captain of next year's team. It will lose only Boots Learned with his five points, and with what the incoming class may furnish of fresh material, next year's season is bound to be a glorious one for Tech.



TRACK TEAM.

Tech Track Records

EVENT	RECORD	RECORD HOLDER
100-yard dash,	10 $\frac{1}{5}$ seconds,	H. L. Dadmun, '91.
220-yard dash,	23 $\frac{1}{2}$ seconds,	H. L. Dadmun, '91.
440-yard dash,	51 seconds,	H. L. Dadmun, '91.
$\frac{1}{2}$ -mile run,	1 min. 59 $\frac{1}{5}$ sec.,	H. L. Dadmun, '91.
1-mile run,	4 min. 45 $\frac{4}{5}$ sec.,	J. M. Gallagher, '94.
2-mile run,	10 min. 32 $\frac{2}{5}$ sec.,	G. H. Slocomb, '12.
120-yard hurdle,	16 $\frac{4}{5}$ seconds,	O. W. Lundgren, '97.
220-yard hurdle,	28 seconds,	P. F. Ellsworth, '08.
Running high jump,	5 ft. 7 $\frac{1}{2}$ in.,	L. W. Stanton, '03.
Running broad jump,	21 ft. 2 in.,	W. B. Jewett, '88.
Pole vault,	10 ft. 7 in.,	C. E. Barney, '11.
Discus throw,	96 feet,	P. M. Hall, '07.
16-lb. shot-put,	36 ft. 9 in.,	C. E. Learned, '09.
16-lb. hammer-throw,	116 feet,	J. Power, '12.



BASEBALL TEAM.

Baseball

The baseball season of 1909 closed in Hoboken, N. J., on Saturday, May 22, with a victory over Stevens Institute, making a record of four games won and two lost. The full success of the season was greatly hindered by rainy weather, preventing the playing of two of the most important games. Rensselaer, our rival from New York State, came on for the annual game, returning unvanquished only because of the kindness of Jupiter Pluvius. It was a great disappointment to cancel the game when the chances were excellent for atoning for last fall's defeat in football. The trip of the team to New York city was made in a pouring rain that made it impossible to play the game scheduled with Pratt Institute on the morning of May 22.

For the first time in our athletic history the baseball team has had the services of a professional coach in the person of John H. Sharrott. Mr. Sharrott proved to be a fine, gentlemanly fellow, who attended strictly to business and was always in attendance at practice. In the short time at his disposal he turned out a team that was really remarkable for its united action. In all the games of the year there has not been a moment's fear of the team's going "ballooning." The boys worked hard and together, and the scores testify to that. No team has found it easy to score runs on us. At bat the fellows hardly lived up to the promise they gave by their performances in the first few games—whether that was due to the ability of opposing pitchers or a slump is hard to determine. But as to fielding, the team has been all that could be hoped for—as a whole, it has played steady, consistent ball.

Particular credit should be given the battery. When the season opened, the matter of a battery seemed to be the most difficult problem of all. Of last year's pitchers Cottrell had graduated, and Kennedy was in the hospital with diphtheria, and Catcher Tabb got a bad attack of "charley horse" early in the pre-season practice. Nims of the sophomore class, however, developed into the best pitcher Tech has had for years. He has shown remarkable speed and control, giving but nine bases on balls during the entire season. In spite of this being his first season, he has not experienced a single bad inning at the hands of an opposing team. Much of the credit of his good work is due to McKenney, the freshman catcher, who promises to be the equal, if not the superior, of the famous Labrit of three years ago.

The season has been a success, but if Coach Sharrott can be secured—and every effort should certainly be made to secure him—there is every reason for believing that the season of 1910 will find Tech in a class with the liberal colleges. On the basis of this season's victories, games with stronger teams can be secured—that is, with such teams as Exeter, Tufts, Trinity and Williams. We should have a team to defeat these colleges, because every member of the present squad, with the exception of Hedberg, will return next year. Much of the preliminary work and the resulting loss of time can be eliminated and real practice begun at once. With the team playing together as it has done, and with Sharrott there to finish the work he has begun so well, we may depend upon it that Tech's baseball light will shine as never before in the season of 1910.

Bell,	r.f.	Halligan,	c.f.
Sanderson,	3b.	Brown,	1b.
Gaul,	s.s.	McKenney,	c.
Thomas,	l.f.	Nims,	p.
Hedberg,	2b.		

Subs., Peterson, Martin, Cleveland.

The season—

Tech,	2	Amherst Aggies,	3
Tech,	8	Worcester Academy,	4
Tech,	10	Rhode Island State,	1
Tech,	7	Springfield Training,	5
Tech,	1	St. Anselm,	4
Tech,	2	Stevens Institute,	1
	<hr/>		<hr/>
	30		18

Tennis

The academic work of 1908-9 being well under way, the attention of the under-graduate world was naturally directed towards Tech's fall athletics, viz.: football, cross-countries and tennis.

In tennis this attention focused upon the annual fall tournament, which opened under the guidance of Doctor Jennings early in October. The doctor, through whose efforts tennis at Tech has pulled through many a discouraging season, reported that owing to the unusually large list of entries, cups would be offered to the winner, and the runner-up in the singles, and to each man of the winning team in the doubles. This made competition keener than in former years, when the champion merely had his name engraved upon the Institute cup, and in consequence all of the matches were well fought.

As had been anticipated the finals in singles brought F. W. Kennedy, 1911, the 1907 champion, and Richard Sanderson, 1911, runner-up for the same season, together again, and the tennis enthusiasts who gathered at the Sever Street courts, where the match was played, witnessed one of the hardest fought finals of many years. The match went the full five sets and Kennedy eventually won the championship. In the finals of the doubles F. S. Twomey, 1910, and Kennedy faced C. F. Goodrich, 1911, and Sanderson. The former pair won in straight sets.

In closing it might be added that if tennis is to increase in its popularity on the Hill, and there is every reason to believe that it will, our Institute court can not begin to meet the demand, and another year will make more courts as necessary as a gymnasium.

1909 Chemists

We were seventeen timid youths who assembled in the small lecture room in Salisbury Lab as the first meeting of the Class of 1909 in chemistry. Dr. Kinnicutt duly impressed us with the gravity of our position, and told us what an interesting subject chemistry is, and how hard we ought to work. It did not take us long to brush off the feeling of awe and become better acquainted. In a month we were such friends that we could indulge in water fights and sponge throwing without any one getting "sore."

Qualitative analysis was our diet for the first half-year. Dr. Jennings explained its mysteries to us, and told us how to find iron, lead and any other of the eighty odd elements in a harmless looking solution that you would swear willingly was water, and very often we did find them in distilled water samples handed out to us. As we gained skill in analysis we also acquired proficiency in the use of the water bottle and were able to hit any fair mark. This accuracy in marksmanship was often surprising to one just entering the room. By the time we finished the first half-year, the way that we could "shoot" a water bottle was worthy of admiration.

The second half-year found us with only fifteen men, two having fallen out by the wayside. In that half-year we were introduced to quantitative analysis, and many were the long, pleasant afternoons spent in the strenuous work of evaporating a solution on a steam bath or heating a precipitate in a crucible. Those days are the ones to look back on, for during them we became knit closer together, and many were the impromptu debates we held together on themes ranging from sports to high finance. It was then we first began our use of balances, and from the time the most of us spent in there, we soon changed the name from weighing-room to waiting-room. A course that many of us will long remember is "Adv. Inorg. Lectures and recitations six hours a week." That course was principally examinations, and our stars must have been in the ascendant that we ever got by it. This unlucky number was side-stepped, however, by the appearance of a man from M. I. T. at the beginning of our junior year.

Now it was that we began to steep ourselves in chemistry, theoretical and practical. In theoretical we listened with mouths agape to the statement of Van't Hoff's Law, and to the fact that if PV equaled RT , K was constant. What theoretical chemistry is, is still a question to most of us.

In the labs we developed our famous whistling and dancing team, and started our joke books, wherein all new jokes were inscribed. "Heb" Searle was editor-in-chief, and a prolific contributor. The book can still be found in the archives of the department.

"Er—r. Mr. ———, develop all the sugars from glucose." Such questions no longer cause our breath to quicken and our heads to reel, but then they were a dire reality. From the saying, "See Venice and die," a parody might be made, "Know organic chemistry and commit suicide." How interested we became in developing all the formulæ for the tartaric acids and the sugars. "And still we gazed, and still our wonder grew, that one small head could carry all he knew." Organic chemistry opened up to us fields for reading and study until then undreamed of. Some of us came near dreaming it, however, as these eight o'clocks did not give us time to wake up from the night before's sleep.

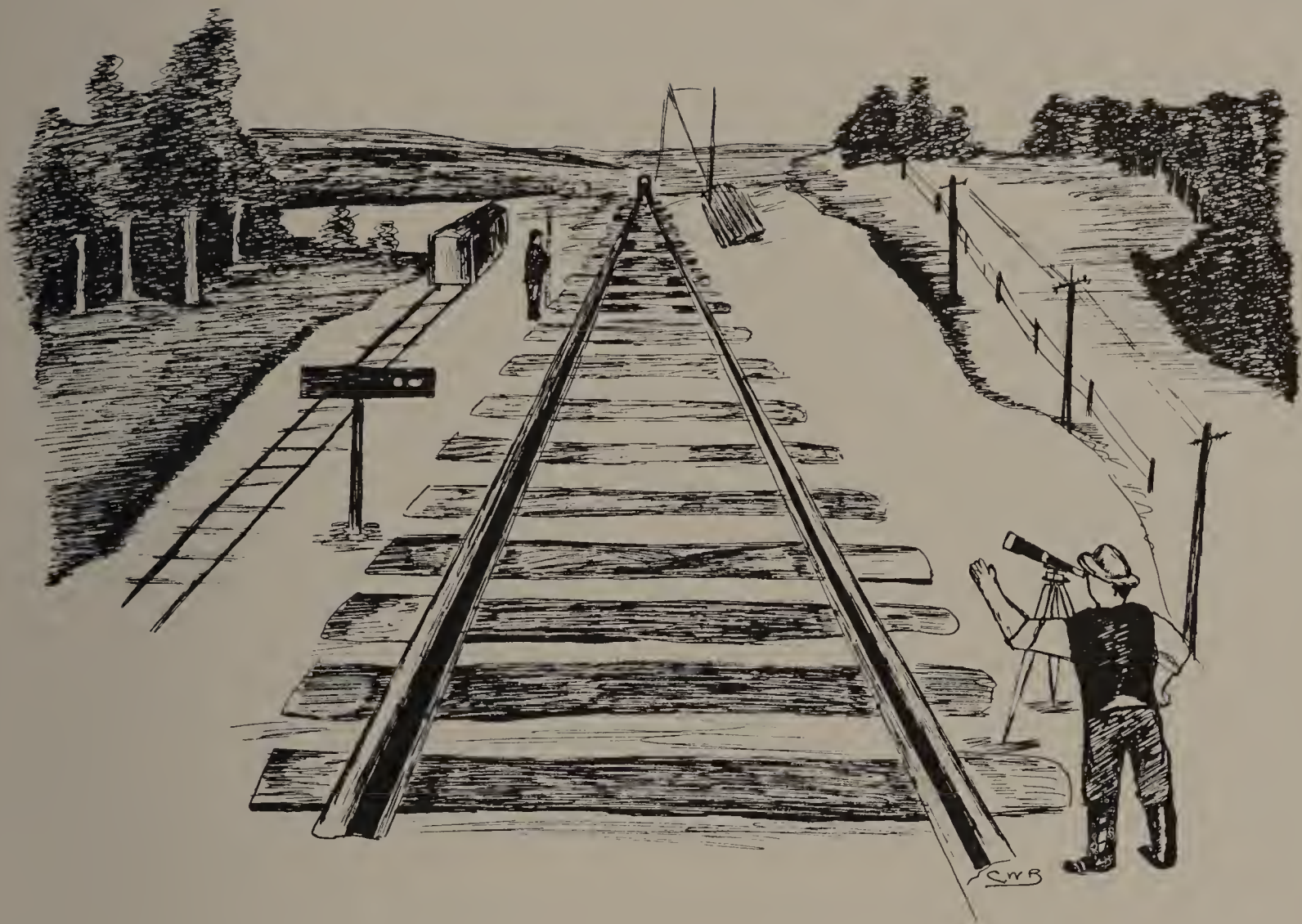
And then there was summer practice, that was always a most enjoyable occasion, and especially so junior year, when we analyzed foods and cereals, wines, beer and butter of all kinds. Hawkes was in his element and ate up two samples handed out to him, and bought two more before he got his analyzed. The wine was very sour, so that one sample was enough. Water analysis was the next thing which took up our attention, and here we learned to tell whether water came from Worcester or Sterling, and several parties went to Sterling to collect some of its water, which is said to be very strong. The phys chem course absorbed much of our time. How we did enjoy doing those six-hour laboratory experiments in the scheduled three hours, and then putting four hours in figuring up a supposed one-hour report. The recitations in this subject we finally arranged to our satisfaction, the instructor and Charlie Goldthwait doing all the reciting. In January of the senior year we finished organic chemistry, both lab and lectures. What rejoicing there was among us. Not that we loved organic less, but a few nights of sleep per week more.

For thesis work some of us made furnaces, others ran them, and still others mopped up kerosene from under the Townsend cell, which was situated in the industrial lab. Mentioning industrial lab causes many people to think that it is the lab which is industrious. This is not so, it is the students. If you don't believe it, look in sometime and see the—benches. A strict rule was made that if any one was going to be in the lab for more than one hour, he must notify the instructor in charge. This was faithfully lived up to. The year ended up with a hair-raising exam in electro chemistry, which covered everything we ever heard of and a little more.

Looking back over the four years, we feel that they have not been wasted, and will undoubtedly bear fruit in the future years. This is the end of the 1909 Chemists.

The Worcester Chemical Club

During the freshman year of our class, the Worcester Chemical Club was organized with the purpose of bringing together students, instructors and technical men who were interested in chemistry. At first the membership was very small, not exceeding thirty, but the lack of formality at the meetings, and the diversity and interest of the subjects presented and discussed, made the club unique and popular from its very start. At the beginning of our senior year, the club had grown both in its membership and its aims to such an extent that a special programme was arranged. Meetings were held every two weeks of the school year as before, but the meetings held every other fortnight were formal affairs, at which the members of the club and their friends were addressed by some well-known scientist from outside the city. The meetings which dovetailed in between meetings of this class were of the old-fashioned sociable variety, where there were usually a number of excellent discussions, a general exchange of opinions, and an intermission in which the members helped themselves to crackers, cheese, doughnuts and light ale. During the present year, the club was addressed by Professor Fay, Professor Samuel Prescott, Professor Lewis Derr of Massachusetts Institute of Technology, and by Dr. A. S. Cushman, graduate chemist of the Class of '88.



1909 Civils

There was some friction, to be sure, when a Division A man was put at one end of the chain and a Division D man at the other, but soon we were well accustomed to work together. Lettering and railroad curves and Roger Delirious—these became our special aversions. And we learned to adjust instruments with the frigid zone embodied in every exasperating thumb-screw. But we were recompensed for this uncomfortable work when the spring and summer courses came, and we could wander at will through the luxurious parks of Worcester with plane-tables or stadia outfits.

Then came Chaffins. By the evening of August 26th, all the tents were up, and after the dark-complexioned Steve had served our first supper, we tumbled gratefully into our double-decked births to sleep soundly. We buckled down to work the next morning. With hand instruments we made a hasty reconnaissance, and, deciding upon a route, set out to make the preliminary survey. The weather was splendid, the whole region in the full beauty of the late summer, and before we were aware a week and a half had passed. We had grown accustomed to the camp, to each other



1909 CIVILS.

as bed-fellows, to Professor Ives' dissonant breakfast call in the early dawn—to everything but the commissariat. Yet this we endured bravely for a time, Carl being the only man who, through his boils, suffered seriously from the effects of Steve's concoctions. Besides, we hated to let Steve go. He was a congenial fellow, full of superstitious fears, which could be worked upon by such as Gaines. At length, however, we took heroic measures, ousted the cooks, and took the culinary department into our own hands. If we weren't so inevitably cut out for engineers, we might have made first-class cooks.

Then the location line was run through, the contour parties sent out, and while the rain was reducing the camp to the state of a saturated sponge we worked busily on the maps till the three weeks were spent, and we struck camp to get back to the Hill and the grind of the junior year.

We had our tussle with railroad maintenance and economics, with least squares and astronomy. But in spite of Reddy we waded through, and then came a summer with Professor French, when we really began to learn something about instrument work and astronomy.

The last has been the prime year of the whole course. Here in daily contact with Professor French with his acumen and practical engineering sense, we believe we have imbibed a little of the instinct as well as some of the science pertaining to engineering. Framed structures was rather



AT CHAFFINS.



a nightmare to some of our number, but R. E. revelled in it, and in its adaptation to design Barrows came to the top of the ladder. We were hoping that all would filter through the mill after a fashion, but there are whisperings which say that three men, perhaps more, of our doughty band have met their Waterloo. But whether or not we shall all come through unscathed, we have fought a good fight together, and the sense of comradeship is strong within us.





SUMMER CAMP AT CHAFFINS.

The Civil Engineering Society

As a medium through which the news of current engineering work could be circulated, the C. E. Society has proved of immense value. Here instructor and student might meet on neutral ground, opinions might be freely exchanged; before this society, also, appeared speakers of acknowledged standing in the engineering world. At the first meeting of the year G. Norman Palser was made president, Willard Hedlund, '10, was elected vice-president, C. A. G. Pease, '10, secretary, and E. P. Peterson, '11, treasurer. The balance of the evening was devoted to informal talks by members of the senior class, who spoke on their engineering experiences during the summer vacations.

At subsequent meetings other members presented abstracts of articles appearing in the current engineering literature. All meetings were largely attended by members of the lower classes and their friends. Sometimes—gala times—refreshments were served. Don't forget the refreshments!

We were very fortunate in being able to hear Professor French describe in an illustrated lecture "High Building Construction." Ham on reinforced concrete and morality we remember. We were placing bets as to whether Davenport would lose his temper over that distressing lantern (M. E. Department property, of course). But Davvy never ruffled.

Then came Mr. A. D. Flinn, '93, with his discourse on the "New Catskill Water Supply of New York City." The last two meetings of the year were taken up by the members of the class, who discussed their theses in more or less detail. We are not sure how the Society is going to prosper when we are gone and G. Norman has given up the reins; but we trust our successors will take up the work and prove themselves sufficient unto the task.

Electrics

When the Electrics were ready to take up the work peculiar to their profession, the new Electrical Laboratories were ready to receive them. They have been fortunate in being the best housed of all the class. Of buildings and equipment they have had the choicest, newest part; and it is to be hoped they have appreciated their advantages and have profited from them.

The division, as such, has done very little in the way of holding any outside social events, and has allowed its partisan feelings to ooze out only on the occasions of the annual football and baseball games with the Mechanics.

In the senior year they held a banquet, which the post-graduates and members of the Faculty in the Electrical Department attended as invited guests. The banquet was held at the Technology Club in Boston at the invitation of Roberti Thomasonian Pollock, ——— “engineer,” who is one of the few men at the Institute who are members of the club. The trip to Boston was made in the test car belonging to the Electrical Department, and at the invitation of the members of the Faculty, the Boston Auto Show was attended in the afternoon. The banquet was held in the evening, and was a great success, for it brought the Faculty and students in closer touch than anything else during the whole course has done, and it is to be hoped that the succeeding classes will profit by this example.



ELECTRICAL ENGINEERING LABORATORY.

The Electrical Society

The Electrical Society at the Institute is a branch of the American Institute of Electrical Engineers. Since its start under this name in 1907, interest in its meetings has greatly increased, and its membership, too, has grown, the year just ending showing an enrollment of 85. From a comparative record in the proceedings of the parent society at the end of last year, our branch compared *very* favorably with other branches, and this year has been even better than last.

The meetings of this society afford opportunities for students to become familiar with the practical problems that are occupying the attention of the leaders in their future profession.

The first two meetings of this year were devoted to "experience meetings." These meetings are very helpful as well as interesting. Experiences at the United States Patent Office, with the General Electric Co., the American Telephone & Telegraph Company were heard. Also reports on the meeting of the American Institute of Electrical Engineers, at Atlantic City, and of the American Street & Interurban Railway Association were given.

On November 6, Mr. Joseph A. Johnson, '05, spoke on the "Work of the Ontario Power Company at Niagara Falls." His lecture was illustrated by the use of maps and pictures, this feature greatly adding to the interest of the meeting. The excellent facilities in the lecture room make this feature possible in many of the lectures.

One of the large meetings of the year was that on which Professor Phelon and Mr. Knight gave a lecture on the applications of electricity. In the lecture room many novel experiments were shown, from frying doughnuts to heating iron for a weld and cooling it after welding in the same receptacle. After the lecture many of the modern electrical appliances were in operation in the main laboratory.

Other meetings were addressed by Dr. A. S. McAllister, on "The Alternating Current Series Motor;" Mr. Leon I. Thomas, on "Wireless Telephony;" H. M. Warren, on "Electrical Apparatus in and About Anthracite Coal Mines;" M. V. Ayres, "Some Engineering Problems in Electric Railroading;" W. S. Murray, on "Electrification;" Albert L. Rohrer, on "Modern Organization of Industrial Works." All these meetings were interesting and presented by men who are leaders in their line.

The second ladies' evening was on February 12, when Professor Smith gave a lecture on "High Potential Power Transmission." This lecture was illustrated by lantern slides, and also experiments. After the lecture

refreshments were served in the main laboratory, and an hour of informal dancing enjoyed. Music was furnished by “Tech Orchestra.”

The society has had a very successful year; the meetings have averaged 135. Much credit is due the management for this success. With the list of officers chosen at the last meeting, the outlook is bright for another very successful year.

Mechanics

Out of that notable one hundred and fifty-two who signed up as aspirants for sheepskin engineers, thirty-five, who had not been disqualified by Chic's shop, the thought of hard work and visions of oily digits, picked the mechanical course.

Our sophomore year introduced us to Pa with his piece of waste and his many steps (cones and otherwise); we dabbled in surveying sufficiently to be able to draw a bead on the couples of Bancroft Tower, while calculus and physics were a mere bag of shells. The year was soon over; some fell among thorns and got stuck, alas, while those whose guiding star was still in the ascendancy stayed to enjoy summer shop, the Lake, and that memorable Old Home Week celebration. Then it was that the '09 Mechs shone in all their glory, for no one can forget the manner in which they carried off the field-day honors. Picture in your mind's eye, if you will, little Freddie Ellis winning the potato race, and Doc hopping his way to victory in a gunnysack, while the tug-of-war team pulled the much-vaunted and highly-trained Junior Mechanic team around the lot.

Junior year brought us together twenty-nine strong, and then it was that the hot time began in Davy's boiler course. Electricity kept us on pins and needles, while mechanics and kinematics were our realm of delight. A couple of little journeys were taken. The first was in the nature of an inspection trip of power-plants and stretched from Worcester to Boston, death and destruction lying in the wake of our private car. The two days were spent in inspection, while the evenings were varied with feeds at Charlie's, the Columbia, and a trip through Chinatown. Our trip to Providence was a one-day affair for all except four of us, who succumbed to the delights of Rhodes on the Pawtuxet. But our well-regulated lives as juniors closed, and twenty-six seniors were lined up for the plums when the doors again opened in September.

In this our last year came our stop-watch course and our private retiring room. This year the room has been more appreciated than ever. The most formal and exclusive event of the season was a smoke-talk given by Professor Bird and Professor Allen, after which a collation was served while Carter tried to break his record. The affair was an unqualified success.



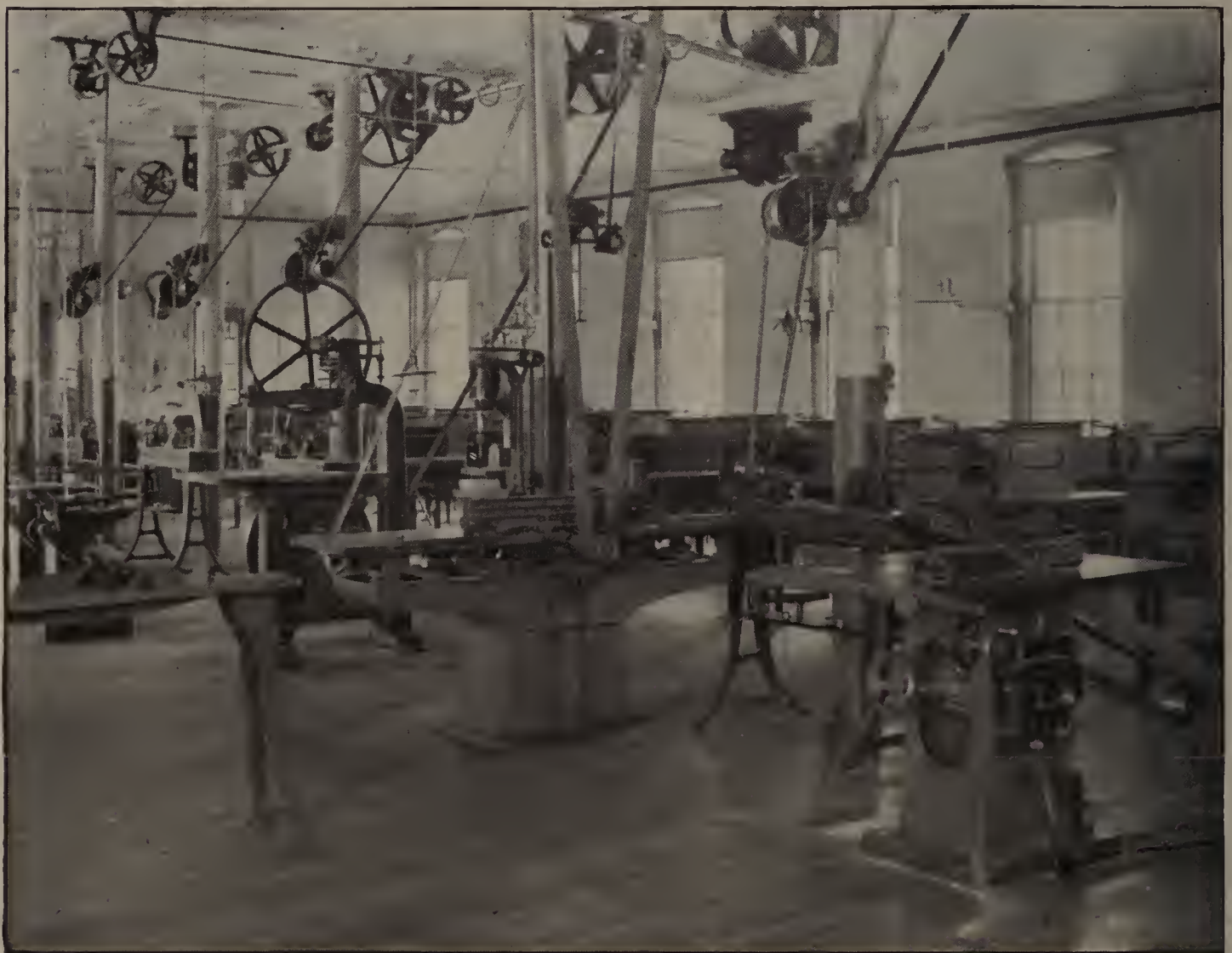
MECHANICS—1909

Our athletic propensities came to a head in November, when our aggregation of warriors met in mortal combat the Senior Electrics. Both sides claimed and still claim the victory, but although neither side scored, Captain Crouch made an excellent try for a field goal, which is more than the Electrics had a chance to do. However, the quietus was administered to the tune of 8 to 2 in the baseball game.

The annual trip to Walpole, during which the Walpole water works were tested and found in good shape, was a huge success. Who can forget the harmonious quartette, how V. C. slipped one over Smigie, the famous aggregation of tumblers, and last, but best of all, Charlie's well-famed and tasty victuals at the camp at Lake Pearl?

And now the time is at hand when the last handshakes as undergraduates are given, our last farewells are said, and the bunch divides, probably never to meet again in its entirety. A long drink to the Mechanics of 1909.

"Requiescat in pace."



PATTERN ROOM.



MACHINE SHOP.



FORGE SHOP.

Mechanical Engineering Society

Varying from the practice of recent years, the lectures before the Society have been given exclusively by the members of the department instead of outside engineers, and were made especially interesting by the use of lantern slides and working apparatus. The attendance at the meetings throughout the year has been especially large. The following talks were given before the Society:

- Oct. 2. "The Effect of a Blow." Prof. William W. Bird.
- Nov. 6. "Modern Water-wheel Testing." Prof. Charles M. Allen.
- Dec. 4. "To Smoke or not to Smoke." Mr. Howard P. Fairfield.
- Jan. 4. "Some Peculiar Mechanisms." Prof. Alton L. Smith.
- Feb. 5. "The Philosophy of the Steam Engine." Prof. Carleton M. Read.
- March 5. "The Development of the Gas Engine." Mr. David L. Gallup.
- April 2. "The Exportation of Machine Tools." Mr. Elmer H. Fish.
- May 7. Annual meeting.

At the first regular meeting of the Society the following officers were elected:

- President*, Harvey C. Irving, 1909.
- First Vice-president*, Roger B. Hubbell, 1909.
- Second Vice-president*, William W. Armour, 1910.
- Third Vice-president*, Edward H. Classen, 1911.
- Secretary*, Charles W. Morden, 1910.
- Treasurer*, Don A. Hamilton, 1911.

At the annual meeting in May the election of officers for the ensuing year took place and talks on thesis work were given by Messrs. Riley, Roys and Merrill. The work of the year came to a close with the dispensing of the usual good feed, after which a social hour was spent.

Commencement Week, 1909

SUNDAY, June 6, 7.30 p.m. The Baccalaureate Sermon by the Rev. Frank Crane, in Central Church, Institute Road.

MONDAY, June 7, 8.00 p.m. Theatre Party.

11.00 p.m. Bonfire on Alumni Field.

TUESDAY, June 8, 2.00 p.m. Planting of the Class Tree and Dedication of the Class Stone. Class Oration by Mr. Jerome W. Howe.

8.00 p.m. Second Annual Meeting, Worcester Polytechnic Institute Chapter, Sigma Xi.

Address by Dr. George Fillmore Swain, Professor of Civil Engineering in the Massachusetts Institute of Technology, on "Research in Engineering," in the Lecture Room, Electrical Engineering Laboratories.

WEDNESDAY, June 9, 9.00 a.m. A Field Day of athletic sports on Alumni Field, under the direction of the Graduating Class.

3.00 to 5.00 p.m. The Hydraulic Testing Plant at Chaffins open to inspection.

4.00 to 6.00 p.m. The Electrical Engineering Laboratories open to visitors and the equipment in operation.

8.00 to 10.00 p.m. The President's Reception to the Alumni and Senior Class.

THURSDAY, June 10, 10.30 a.m. Graduating Exercises in Tuckerman Hall, Woman's Club Building.

Commencement Address by Dr. James Pierpont, '86, Professor of Mathematics in Yale University. Subject: "A Modern Programme for Modern Mathematics."

2.00 p.m. The Alumni Dinner on Alumni Field.

8.00 p.m. Dance under the direction of the Graduating Class, Terpsichorean Hall.

The Buildings and Laboratories of the Institute will be open for inspection on Commencement Day.

FRIDAY, June 11. Farewell Banquet of '09 at the Sterling Inn.

Jokelets.

Danny to Freshman: How does sulphur occur?

Freshman: In long yellow sticks.

Murf in design: I've made my armature all slots; there are no teeth at all.

Bird: If one man can see two miles how far can two men see?

R. E. Spaulding in sanitation: Do you mean by the air of the breath the air inhaled or exhaled?

A. L. in kinematics: Some of your answers sound like patent medicine formulas.

Jinny in economics: What is patentable, Mr. Whitmore?

Whitmore: Everything except perpetual motion.

After the nomination of candidates for senior class baseball captain. Ellis: I hope the fellows will vote for someone who has played ball before.

In mechanics. Mr. Fish: Well, Whitmore, do you know anything about this?

Whit.: I might have last night, but I don't this morning.

Mr. Fish: You ought to have come home after the last act.

Fish: A boarding-house is a monarchical institution run on anarchical lines.

"Prexy" to Riley at the banquet: I thought Read's initials were "C. A." and not "B. A." Did Riley explain????

Kinnie: Radiating outwards toward the centre.

We understand that R. E. Spaulding is going to write a monograph on "Thoroughbred Bacteria."

Ives: Mr. Spaulding, can you inform us as to the reason for Mr. Wheelock's absence?

C. G. (suddenly coming to earth): I—I didn't study that part of the lesson.

Learned has accumulated some small fortune by matching pennies.
Leggie (his neighbor in Poly-sci): I don't see how you can keep that stolen money.

Learned: That's just what's the trouble, Leggee; I can't.

Nesfield's Tablets may save you from spending the rest of your life underground.—*Kinnie*.

Fish, considering the pressure of water on a wall: Now getting the equation for this dam thing.

Bird: Electricity is no good; we're going to run the bells on steam another year.

Dr. Bonnet: Mr. Hapgood, what can you tell us about guano?

Hapgood: Well, I'm not just sure where it is, but it is a country in South America.

It's a long way back to our freshman year, but who can forget the day Clint Taylor's chair broke down?

Mangold: The Rio Grande is probably the most turbid river in the country. In fact—it is said that the river becomes so muddy that dust blows off the surface.

Fish remarks after a monthly quiz with an average of 42 per cent.: "I had to use a large factor of safety."

Herbie Searle: How long are the days at Newark, Doctor?

Dr. Calhane: Twenty-four hours.

Bird: Tell the truth even if you have to lie to do it.

We hear that Adams is going to have patented the idea of wearing bicycle trouser guards with pajamas.

No Smoking in the Institute Buildings

Kinnicutt enters lecture room with what appears to be a cigarette between his fingers. (Class convulsed.)

Kinnicutt retreats and nonchalantly reappears with an innocent piece of chalk between the same fingers. (Class nonplussed.)

Chalk is presently raised absent-mindedly towards lips. (Class convinced.)

How about the sign above the dining-room door? (Aguirre's mustache.)

Mangold: What do you call the method of determining the quality of water by looking at it, smelling of it, etc.?

Knox: I should call it just a cursory examination.

Fish: This isn't physics, this is engineering; we don't care how much the beam bends when a fly sits on it.

Danny: Friedman, what is apatite?

Friedman: Appetite is aw——

Prof. Haynes: Price is value measured in terms of money. Now, Mr. Hewes, how is price expressed, as, for example, the price of such articles as I have here (exhibiting watch and pocket knife)?

Hewes: Two dollars and a half.

Mangold: The class is at liberty for those who feel themselves constrained to depart.

Dr. Bonnet: Where did you get that information, Mr. Jones?

Jones: In the Anorganische Chemie.

Barrows and Adams in discussion. Adams: Suppose you had a gun big enough to shoot to the moon!

Barrows: You'd kick the earth to hell first.

Jinny says: Leggee, you'll be late to your own funeral.

Wagner in mechanics: You've got to begin to break a brick on the outside.

Faculty-Senior baseball game. Coombs coaching on sideline—

Game: First man up to bat.

“A good hit now, Doctor, lots of chance, nobody out yet, lots of chance.”

Leggee's schedule:

——8.10

——9.05

——10.06

——11.07

——etc.

Got Howe and the rest of 'em skun a mile.

Burlin in Debate

(With stage directions.)

(Burlin looks at feet.)

“Capital punishment”—

(Scuffs feet)

“Should be abolished.”

(Scuffs feet)

“It is inexpedient.”

(Scuffs feet)

“The jurors won’t convict”

(Scuffs feet)

“a man if they”

(Scuffs feet)

“know that”

(Scuffs feet)

“he will be hanged.”

(Scuffs feet)

“They’ll give him the second degree instead.”

(Double shuffle and sidesteps the bouquets.)

Oddments

Freshman English: "A theme! a theme! great nature! give a theme."
—Keats.

Sounds like Svenska: "Laughter, holding both his sides."—Milton.

Found on Burlin's desk:

"The things, we know, are neither rich nor rare,
But wonder how the devil they got there."—Pope.

An unprepped exam:

"No reckoning made, but sent to my account
With all my imperfections in my head."—Shakespeare.

Summer surveying:

"Sum up at night what thou hast done by day."—Herbert.

Carter in his new millinery:



"Thou art not for the fashion of these times."—Shakespeare.

Prexy's "Magnetism" after 11.50 a.m.:

"Who, too deep for his hearers, still went on refining,
And thought of convincing while they thought of dining."
—Goldsmith.

Learned at Chaffins, 12 m.:

"The empty vessel makes the greatest sound."—Shakespeare.

Least squares and astronomy:

"And if the blind lead the blind both shall fall into the ditch."
Especially them that be flunked.—Matt.

So saith Derby:

"Some falls are the means the wetter to arise."—Shakespeare.

Howe in the track picture:

"Pigmies are pigmies still, though perched on Alps."—Young.

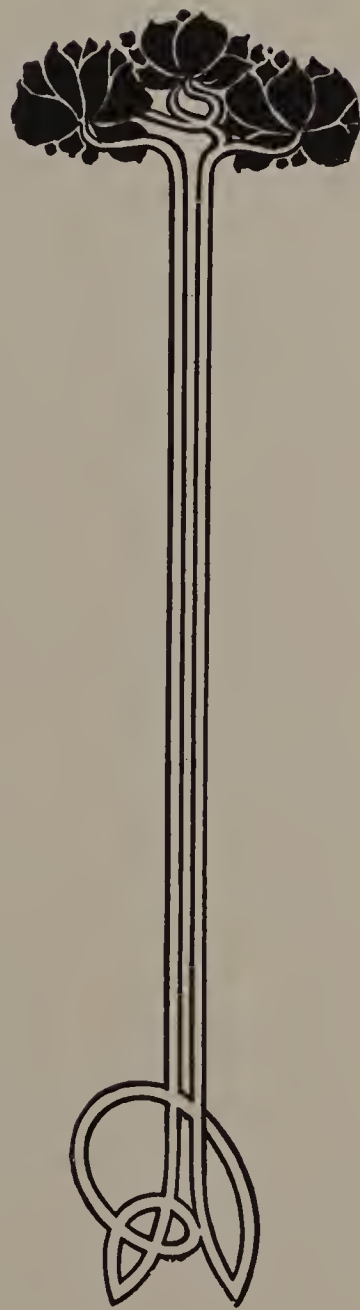
The profit that the instructor takes:

"Look upon the bright side of your condition."—Watson.

Says Holbrook to King:

"Providence wishes us all to be blest."—Tupper.

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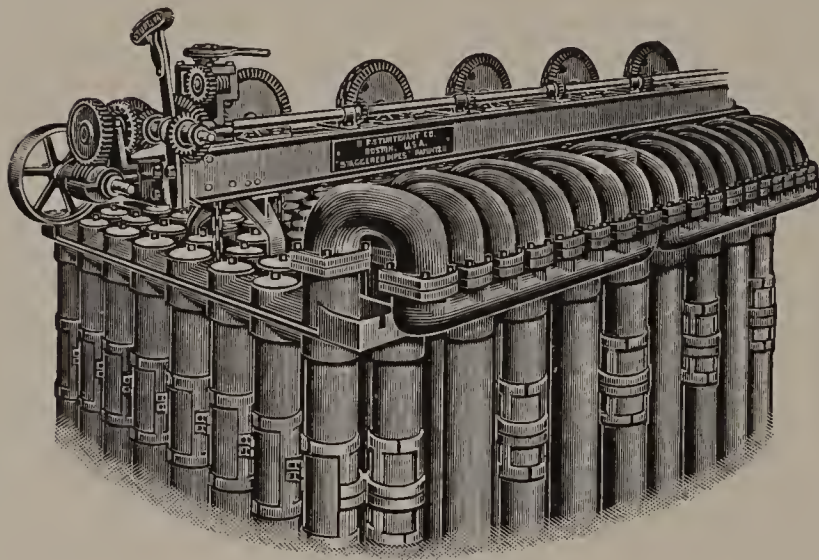
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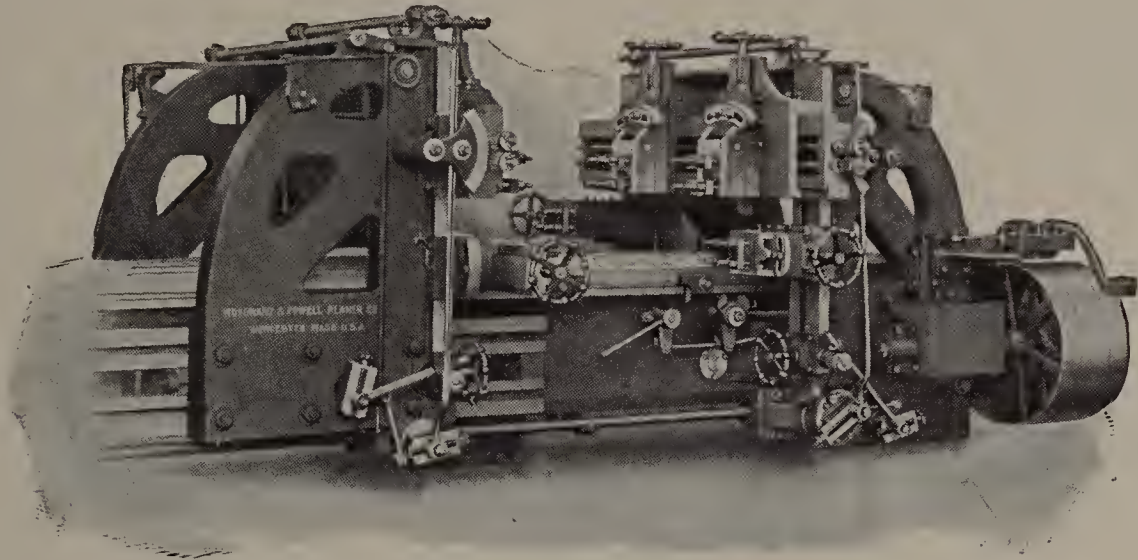
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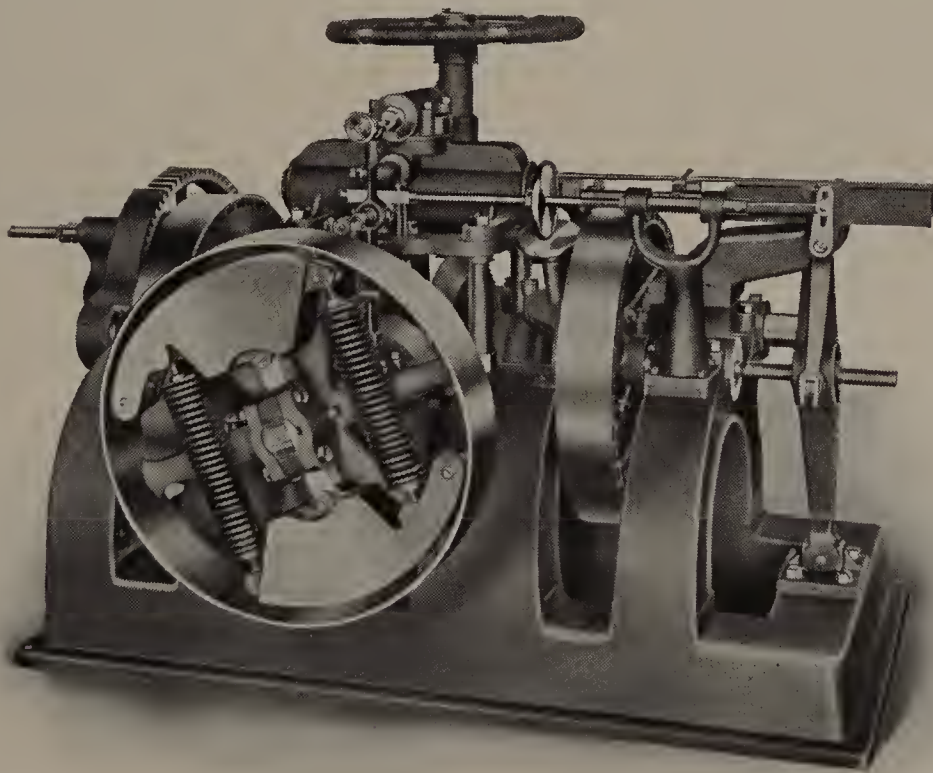


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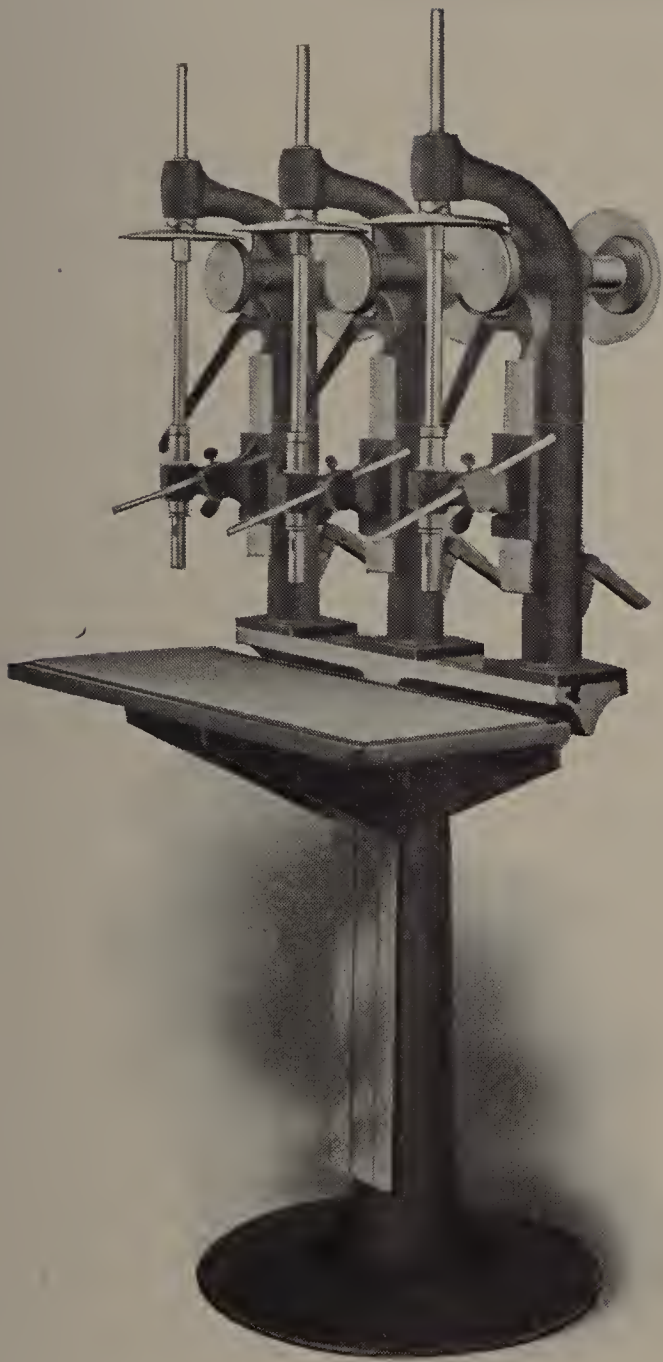
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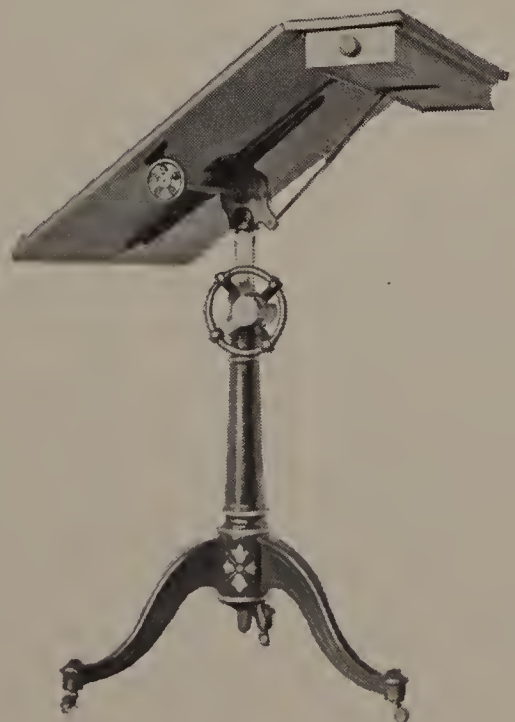
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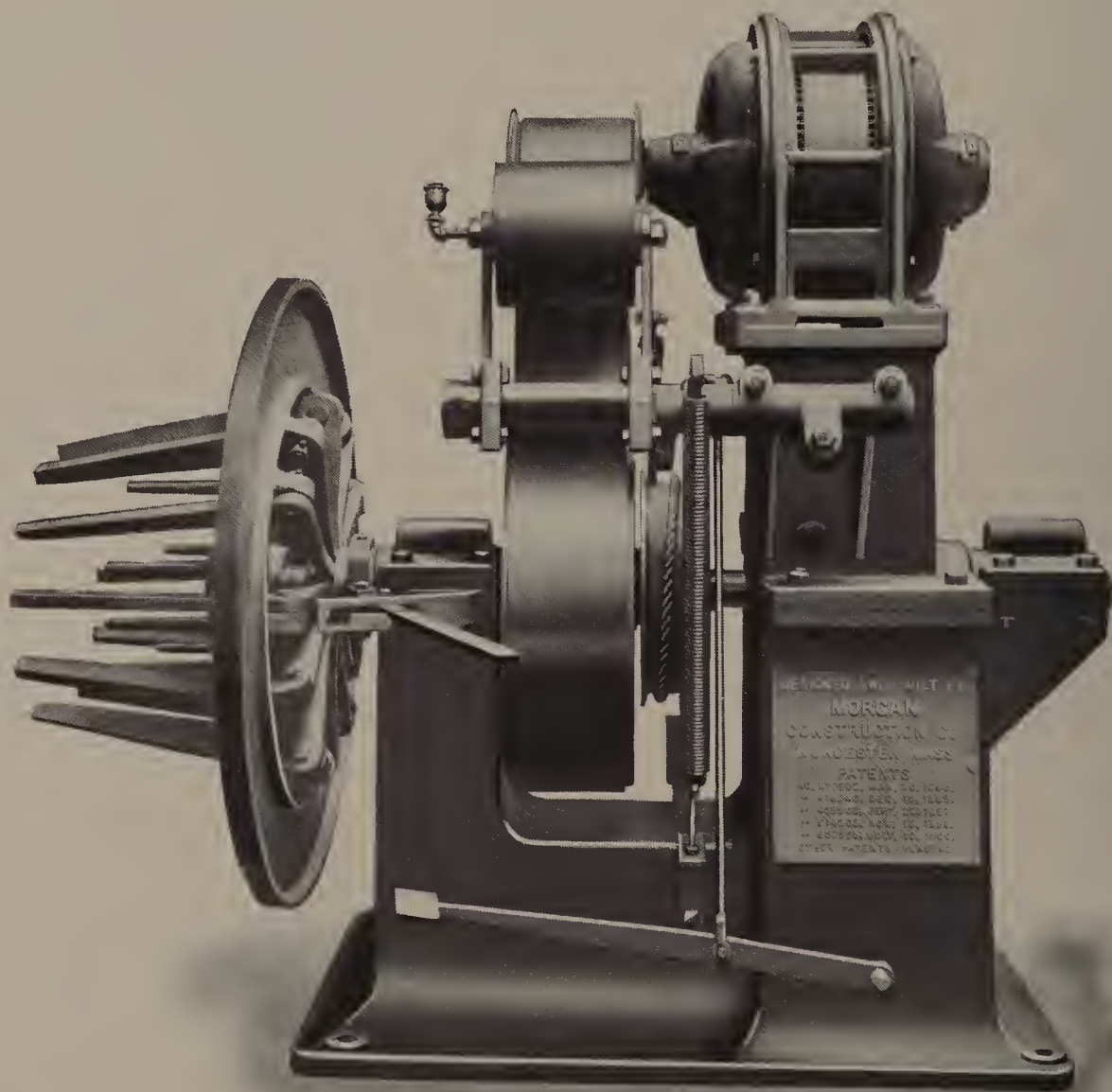
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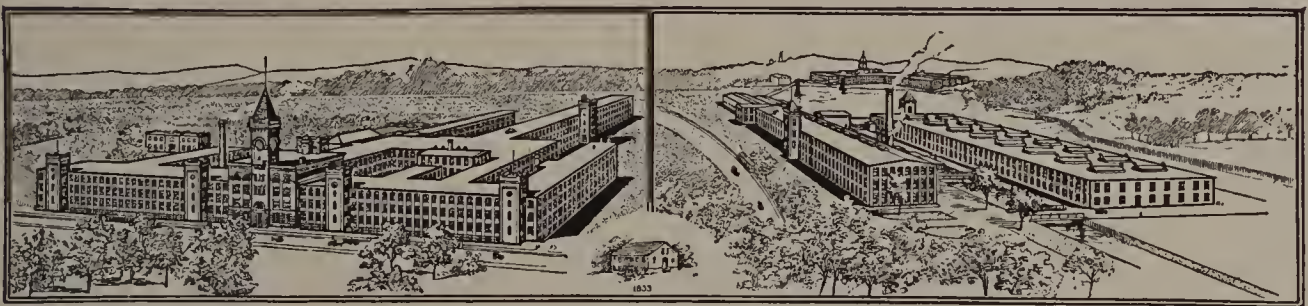
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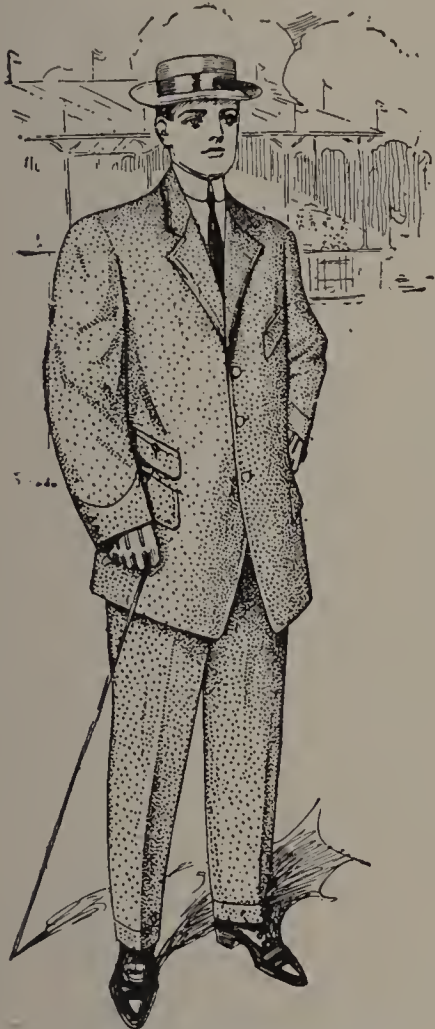
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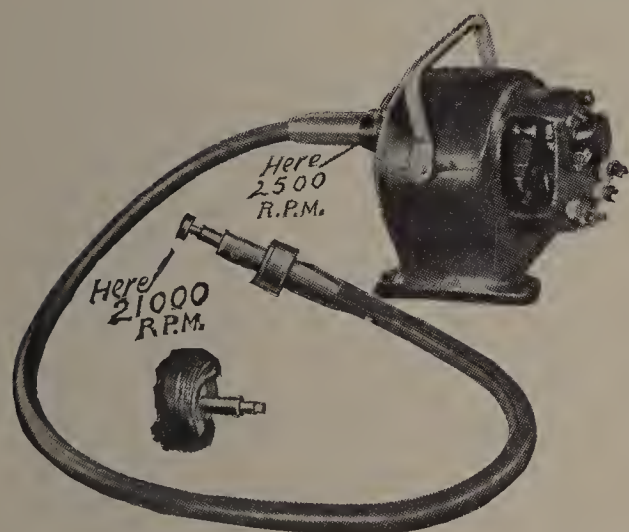
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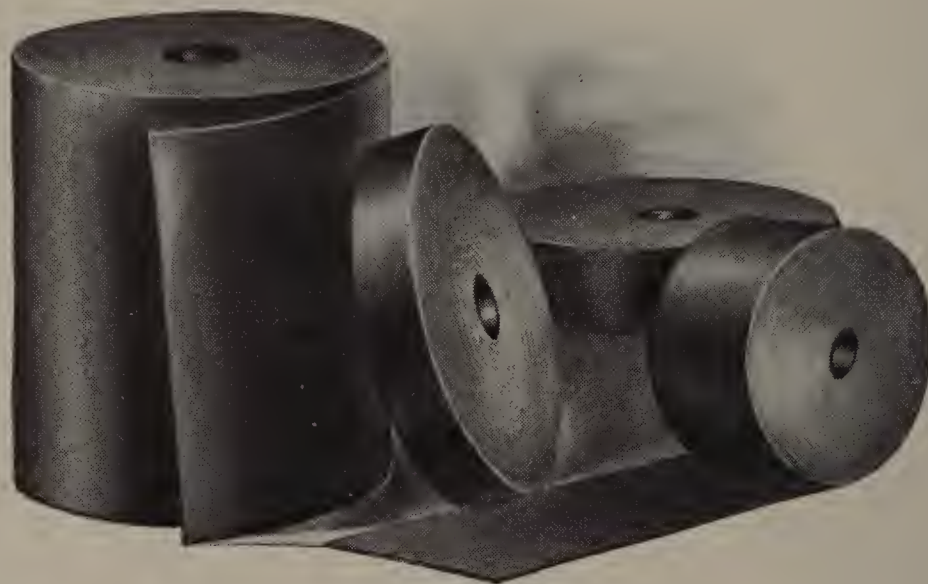
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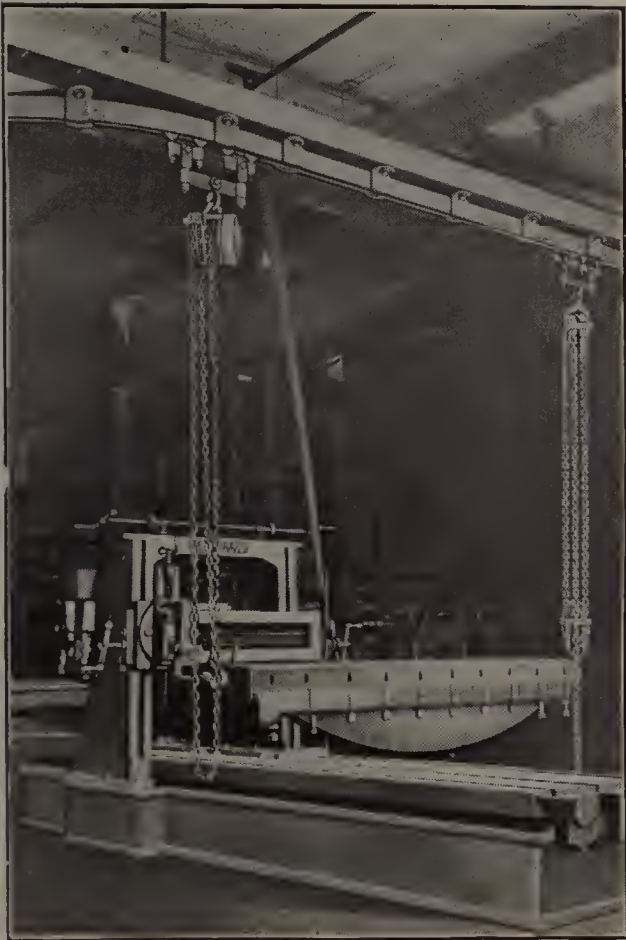


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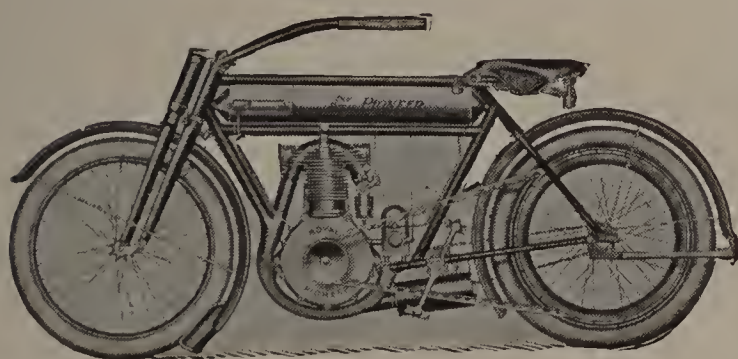
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